

HIGH VOLUME QUARTERLY STUDY SAMPLING AND ANALYSIS REPORT

POTLATCH NPDES PERMIT RENEWAL COMPLIANCE MONITORING

Prepared for

Potlatch Corporation
Lewiston, Idaho

Prepared by

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January 2008



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1 INTRODUCTION

This section provides a brief background of the purpose for conducting high volume sampling and analysis, describes the studies that were conducted, and outlines the contents of the remainder of this report.

1.1 Background

In accordance with renewal of a National Pollutant Discharge Elimination System (NPDES) Permit granting Authorization to Discharge (EPA 2005), Potlatch Corporation was required to conduct monitoring studies in the vicinity and downstream of Outfall 001 associated with Potlatch's pulp and paper mill (Mill) in Lewiston, Idaho (Figure 1). The goal of the monitoring program was to support the effort to characterize the potential effects of discharges from Potlatch's mill to the Clearwater and Snake Rivers on endangered and listed species and the environment.

The purpose of this report is to present the results of Endangered Species Act (ESA) Tier 1 studies undertaken during 2007 that evaluate effluent and natural waters above and below the Mill. In particular, this sampling was performed to fulfill requirements of the Surface Water and Effluent Study that are described in detail in Appendix A and Appendix H, respectively, of the *Quality Assurance Project Plan (QAPP) for Tier 1 Endangered Species Act and NPDES Permit Compliance Monitoring* (AMEC and Anchor 2005).

The Surface Water and Effluent Study principally addresses the measurement of trace organic compounds and dioxins/furans (some of which are required for compliance with the NPDES permit). To do this, a specialized sampling technique known as high volume sampling was employed. High volume water sampling allows for a large volume of site water to be sampled and concentrated on different media for different constituents while reporting these constituents at trace levels. The high volume sampler is a water sampling system capable of sampling 2 liters per minute. Samples are pushed through a pre-cleaned glass-wound cartridge filter via a peristaltic pump. The pre-filter removes the suspended particulates in the water. The effluent then passes through a stainless steel tube containing the polyurethane foam (PUF), which collects the dissolved-phase constituents. Both the filter and the PUF are used for dioxin/furan analysis. Sample for analysis for the additional parameters were collected via the high volume water sampler by bypassing all filters and

pumping directly into the sample bottles. The study used an upstream/downstream study design, and the stations that were selected and sampled during the 2007 sampling event are shown on Figure 2.

1.2 Document Organization and Focus

Section 2 describes the field effort for the collection and analysis of high volume samples. This section is meant to be a summary rather than a detailed account of the field activities. Section 3 presents aspects related to chemical analysis of samples and data validation. Section 4 summarizes the results and offers comparison with benchmark criteria. Section 5 is a brief, overall summary of the field activities and analytical results. Section 6 contains references.

The focus of this report is on data, data quality, and comparisons to criteria determined from the analytical results. The QAPP (AMEC and Anchor 2005) provides additional detail on the design, implementation, and testing associated with the sampling program.

2 HIGH VOLUME FIELD SAMPLING METHODS

This section provides an overview of information specific to the collection of high volume samples as required by the Mill's permit (EPA 2005).

2.1 Synopsis of Field Activities

First round quarterly sampling for the monitoring program was conducted in August 2005, and the second round was conducted in November 2005. Sampling for the 2006 quarterly monitoring was conducted in March (third round), June (fourth round), September (fifth round), and November (sixth round). Sampling for 2007 quarterly monitoring period was conducted in March (seventh round) and June (eighth round). This report covers only the 2007 sampling events; results from previous sampling events were previously reported. As specified in the NPDES permit, the eighth round of sampling completed the required high volume study.

Locations for collection of the high volume samples were chosen to coincide with sample stations from prior sediment and receiving water monitoring activities and to provide spatial representation of the study area (See Figure 2). Sampling areas were located at two upstream reference locations and at six locations distributed between the Potlatch Mill discharge and the Lower Granite Dam. A final sample was collected directly from the Potlatch effluent.

Field-measured water quality data and water samples for water quality analyses were collected at each sample location on the Snake River and Clearwater River at mid-depth. Effluent samples were taken at the Mill's aeration basin. All high-volume samples were collected using a high volume water sampler. Other samples were collected using either the high-volume pump system or a Niskin Grab Sampler.

The sampling methods used in the field closely followed those described in the *Sampling and Analysis Plan for Surface Water and Effluent Study* (Appendix A of the QAPP; AMEC and Anchor 2005). Deviations from the original method were documented in the 2006 data summary report and were also followed through in the 2007 sampling period.

Samples were shipped to the laboratories once all samples were collected.

2.1.1 QA/QC samples

Three types of samples were collected for quality control: trip blanks, field blanks, and field duplicates. A set of trip blanks (sample vials filled with ultrapure lab water) accompanied sample bottles to and from the field. One equipment blank was collected during each sampling event. All sampling equipment was decontaminated according to methods described in the QAPP (AMEC and Anchor 2005) and then rinsed with ultrapure lab water. This rinsate was then sampled to produce the equipment blank.

2.2 Overview of Field Methods

Field sampling was conducted from a jet boat equipped with an onboard Differential Global Positioning System (DGPS), which provided navigation support for finding sampling locations and recording the actual locations occupied. For transport to the laboratory, sample coolers were packed with ice to ensure maintenance of cold temperatures. Coolers were shipped to the laboratories under standard chain-of-custody procedures.

2.3 Sampling Deviations from the QAPP

Deviations from the QAPP (AMEC and Anchor 2005) are documented below for the 2007 year sampling events:

- In some cases, more than one sample was collected in a day. The QAPP (AMEC and Anchor 2005) indicated only one sample per day would be collected.
- The QAPP (AMEC and Anchor 2005) indicates that the high volume sampling technique will utilize XAD resin as the collection media. The 2007 sampling events used PUF material in the columns, which was approved after consultation with EPA.
- Resin acids, retene, beta-sitosterol, chloroform, chlorinated phenols, and conventional samples collected in conjunction with the June 6, 7, and 8, 2007 dioxin/furan samples were received by the laboratory outside allowable cooler temperatures. Samples shipped for Saturday delivery were delivered on Monday morning because of aircraft mechanical problems. Fresh samples were collected on June 21, 2007 and forwarded with no incidents to the laboratory.

3 HIGH VOLUME ANALYTICAL METHODS

High volume sample analysis was conducted in accordance with Appendix H of the QAPP (AMEC and Anchor 2005). Guidance included specification of methods, method detection limits, and applicable QA/QC measures. Complete details are included in the QAPP (AMEC and Anchor 2005).

3.1 Sample Analysis

Two laboratories were used to perform the chemical analyses on the high volume water samples. Analytical Perspectives (AP) was responsible for the dioxin and furan analysis while Columbia Analytical Services (CAS) conducted the analyses for the resin acids; retene; beta-sitosterol, and phenol analyses. AP is located in Wilmington, North Carolina, and CAS is located in Kelso, Washington. Both laboratories are accredited under the National Environmental Laboratories Accreditation Program (NELAP). Appendix A contains electronic files for chain-of-custody forms and all laboratory data reports.

3.2 Data Validation

Data validation was performed by Laboratory Data Consultants, Inc. (LDC), located in Carlsbad, California. A full data validation was performed in accordance with guidance provided in the following documents:

- *Quality Assurance Project Plan for Endangered Species Act Monitoring and NPDES Permit Compliance Monitoring* (AMEC and Anchor 2005)
- *EPA Functional Guidelines for Organic and Inorganic Data*, October 2004 and 1999
- *EPA Functional Guidelines for the Validation of Polychlorinated Dibenzodioxin (PCDD) and Polychlorinated Dibenzofuran (PCDF) Data*, 1996
- *EPA Functional Guidelines for the Validation of Inorganic Analyses*

Each data package was reviewed initially against chain-of-custody forms to ensure that the requested analyses were performed. Requirements for each analytical parameter were reviewed to ensure the technical holding time was met for both the extraction and analytical requirements. Results were reviewed to assess target compound identification, compound quantification and calculations, and achievement of compound quantitation limits. Field blanks were reviewed for possible contamination issues. All initial and continuing calibrations were reviewed for method compliance. All surrogates, method blanks, internal

standards, instrument performance checks, method blank(s), matrix spikes, laboratory control samples, and system performance checks were performed at the required frequency and within specified QAPP (AMEC and Anchor 2005) and method criteria. Field duplicates were checked for consistency and compliance with relative percent difference (RPD) criteria.

Any omitted or discrepant data were resubmitted to the respective laboratory for clarification and re-analysis, if needed. Any sample or standard data not meeting the guidelines in the documents listed above were flagged and qualified accordingly. All discrepancies were tabulated and described in the validation reports. Copies of the qualified sample data sheets with flags are also contained in the validation reports. Appendix B contains all data validation reports.

All data presented in this report were considered useable as qualified from the validation reports. Tables 2 and 3 contain data with the appropriate data validation qualifiers, where applicable. Copies of all laboratory analytical reports can be found in Appendix A.

3.3 Analytical Deviations from the QAPP

The QAPP (AMEC and Anchor 2005) identified the laboratory to be used for dioxin/furan analysis for the high volume water analyses as AXYS Laboratory (AXYS). AP replaced AXYS as the dioxin/furan laboratory. Two data reports were generated by AP for the dioxin/furan analysis of the high volume water samples. The data were reported under AP reports P7609 and P7923. There were no deviations noted for these analyses. LDC, the validation firm, noted in their narrative that the compound quantitation and contract required control limits (CRQLs) for 2,3,7,8-TCDF were not reported using second column confirmation as required by the analytical method. The AP laboratory report indicates that they use a modified DB-5 MS column, where each calibration sequence is evaluated by their chemist to show that the method criteria for resolution is met for both 2,3,7,8-TCDD and 2,3,7,8-TCDF. For Method 1613 samples, this evaluation is an integral part of AP's ongoing precision and accuracy (OPR) analysis. All 17 specific 2,3,7,8-isomers and their close eluters for TCDD and TCDF can be resolved in a single analysis. As method 1613 allows for the use of alternative columns that meet the resolution requirements as a means to forgo the second column confirmation, this requirement was met by AP's analytical procedures and the data reported without qualification.

The QAPP (AMEC and Anchor 2005) identified the laboratory to be used for chlorophenols, resin acids, chloroform, phytosterols, retenes, and general chemistry as AXYS. For the 2007 sampling events, CAS replaced AXYS as the laboratory performing these analyses. The change from AXYS to CAS resulted in a change to the analyte list as several analytes identified in the QAPP for resin acids and phytosterols are not reported in the current 2007 results. The change resulted in four resin acids being excluded (sandaracopimamic acid, palustric acid, neobietic acid, and total 12/14 chlorodehydroabietic acid). Three phytosterols were also excluded in the current analyte list (campesterol, stigmastanol, and stigmasterol). At the time of the change of laboratories in 2006, CAS did not have current method detection limits (MDLs) for the missing analytes and had never analyzed the analytes before. The EPA was notified of the change in laboratories, as well as the change in analyte lists, in 2006.

Two data reports for the high volume water analyses were generated by CAS. The CAS data reports are identified as K0701767 and K0705381. The following deviations occurred in the CAS reports for the high volume water sampling events:

- Total suspended solids
 - SR-REF-SW-A was analyzed one day outside the technical holding time. Sample CR-REF-SW-A was analyzed two days outside the holding time. Data were qualified accordingly. (CAS report K0701767).
- Total organic carbon (TOC)/dissolved organic carbon (DOC)
 - The field blank contained low level hits for TOC (0.030 milligrams per liter [mg/L]) and DOC (0.12 mg/L).
- Resin acids
 - The reporting limit used in previous reports as reported by AXYS Laboratory was below 1 microgram per liter ($\mu\text{g}/\text{L}$), CAS reporting limits were 20 $\mu\text{g}/\text{L}$, which is higher than the requested benchmark of 2.2 $\mu\text{g}/\text{L}$.
 - 3,4,5-trichloroguaiacol percent difference (%D) in the continuing calibration was outside the method criteria (CAS report K0701767). Data were qualified accordingly.

- Several sample surrogate percent recoveries (%R) were outside the QAPP-specified control limits the data was qualified accordingly. Both laboratory reports were impacted.
- The matrix spike duplicate (MSD) %R was outside the QAPP-specified control limits for dehydrabietic acid, 9,10-dichlorostearic acid, and 14-chlorodehydroabietic acid. The sample was qualified accordingly (CAS report K0705381).
- The Laboratory Control Sample (LCS) for linoleic acid, isopimaric acid, and abietic acid %R were low, and these data were qualified accordingly (CAS report K0701767). Dehydroabietic acid %R was high in the LCS for CAS report K0705381). Data were qualified accordingly.
- Retene
 - Samples reported in CAS report K0705381 were reported using a raised reporting limit of 1 µg/L due to laboratory error. Sample holding times had already expired when the error was detected at the laboratory.
 - Sample SR-REF-SW-A was analyzed two days outside the holding time, and sample CR-REF-SW-A was analyzed three days outside the holding time. These data were qualified accordingly (CAS report K0701767).
- Beta-Sitosterol
 - Sample SR-REF-SW-A was analyzed one day outside the technical holding time, and sample CR-REF-SW-A was analyzed two days outside the holding time. These data were qualified accordingly (CAS K071767).
 - The initial calibration relative response factor (RRF) for this analytes was low, and the continuing calibration RRF was also outside method criteria. These data were qualified accordingly (CAS K071767).
 - Surrogate %R was low and outside the QAPP (AMEC and Anchor 2005) criteria in samples LGP2-EFF-AQ-A and LGP2-EFF-AQ-D. These data were qualified accordingly (CAS K071767).
 - The MS and MSD %R was low and outside QAPP (AMEC and Anchor 2005) criteria, and the sample results were qualified (CAS K071767).
 - The LCS %R was low in both data reports. These data were qualified accordingly.

4 ANALYTICAL RESULTS AND COMPARISON WITH BENCHMARK CRITERIA

4.1 Results

This section reports the results of the 2007 Quarterly Surface Water and Effluent Study.

Data are listed in these tables for:

- Clearwater River reference location (CR REF)
- Snake River reference location (SR REF)
- Lower Granite Pool Effluent location (LGP EFF)

Locations downstream of the outfall from nearest to farthest:

- LGP-13 (Sample LGP-05)
- LGP-11 (Sample LGP-04)
- LGP-09 (Sample LGP-03)
- LGP-06 (Sample LGP-02)
- LGP-01 (Sample LGP-01)

Quarterly results are summarized by chemical group, then by quarter in chronological order (March 2007 and June, 2007). The results for the June re-sampling (June 21, 2007) follow the original sample date of June 6, 2007. Tabulated results are presented separately for March (Table 1) and June (Table 2). Parameters with non-detectable concentrations were represented by the detection limit. If an analyte was not detectable across all sites, it was considered not present and thus not evaluated further. Table 3, the data summary table, shows the comparison of both quarters' high volume water data with the toxicity benchmarks using the sample station and parameter list. The statistical presentation of these data can be found in Table 4. Tables 1 and 2 provide the results discussed in the following subsections.

Toxicity equivalency factors (TEFs) were calculated for all dioxin/furan congeners. The total concentrations for each dioxin or furan congener detected in each sample was multiplied by its respective TEF using the World Health Organization (WHO) (Van den Berg et al 1998) value. The results for each congener were expressed in terms of 2,3,7,8-TCDD equivalents (TEQs). A sum of the individual congener TEQs was calculated for each sample to determine the TEQ concentration for that sample. In the verification step (database calculation versus manual calculations were compared to the laboratory's calculation), a

discrepancy was noted in the TEF reported in permit ID000116-3 Attachment A (page A5-12) with WHO-reported TEFs. The discrepancies were:

<u>Congener</u>	<u>Permit TEF</u>	<u>WHO TEF</u>
1,2,3,4,7,8-HxCDD	0.5	0.1
1,2,3,6,7,8-HxCDD	0.01	0.1
1,2,3,7,8,9-HxCDD	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.001	0.01

All calculations were made using the WHO TEF values.

4.1.1 Resin Acids

All detection limits reported were above the 2.2 µg/L water column benchmark. The laboratory reporting limit for this analysis was 20 µg/L. Twenty samples were collected with six of the samples having reportable concentrations.

March 2007

All reporting limits were above the water column benchmark criteria. Non-detect results were reported at a reporting limit of 20 µg/L, which negated the ability to evaluate these data against the toxicity benchmark. LGP2-EFF-AQ-A and its duplicate (-D) sample showed detectable amounts of linoleic acid (59 µg/L and 17 µg/L respectively). Oleic acid/linolenic acid (23 µg/L) and dehydroabietic acid (13 µg/L) were only detected in the primary sample.

June 2007

All reporting limits were above the water column benchmark criteria. Non-detect results were reported at a reporting limit of 20 µg/L, which negated the ability to evaluate these data against the toxicity benchmark. Four samples contained detectable concentrations of resin acids. LGP2-01-A-070621, LGP2-02-070621, and LGP2-SR-REF-070621 had detectable amounts of linoleic acid (4.0 µg/L, 4.4 µg/L, and 13 µg/L respectively). Sample LGP2-EFF-070621 contained linoleic acid (54 µg/L), oleic acid/linolenic acid (74 µg/L), pimaric acid (4.2 µg/L), isopimaric acid (13 µg/L), dehydroabietic acid (9.3 µg/L), and abietic acid (11 µg/L).

4.1.2 Phytosterols

The water column benchmark for phytosterols is 2.5 µg/L.

March 2007

Two samples had reported concentrations above the water column benchmark. The samples were LGP2-EFF-AQ-A-070302 and its duplicate LGP2-EFF-AQ-D-070302 (7.8 µg/L and 4.5 µg/L, respectively).

June 2007

One sample, LGP2-EFF-070621 (11 µg/L), exceeded the water column benchmark.

4.1.3 Chloroform

The water column benchmark for chloroform is 12.4 µg/L.

March 2007

All sample results were below the water column benchmark.

June 2007

All sample results were below the water column benchmark.

4.1.4 Total and Dissolved and Organic Carbon

March 2007

There are no water column benchmarks established for the TOC and DOC analyses. TOC results ranged from 2.3 to 143 milligrams per liter (mg/L). DOC results ranged from 2.1 to 111 mg/L.

June 2007

There are no water column benchmarks established for the TOC and DOC analyses. TOC results ranged from 0.12 to 112 mg/L. DOC results ranged from 0.3 to 97.6 mg/L.

4.1.5 Dioxin/Furan Congeners

Tables 1 and 2 present the tabulated results for dioxin congeners. Water column benchmarks exist for only two of the dioxin/furan congeners. The benchmark for 2,3,7,8-TCDD is 0.06 pg/L and for 2,3,7,8-TCDF is 0.20 pg/L.

March 2007

Reported concentrations were below the water column benchmarks for those compounds with benchmarks. Sixty-one of the 306 detectable results were for dioxin/furan congeners.

June 2007

Reported results were below the water column benchmarks for those compounds with benchmarks. Fifty-eight of the 306 detectable results were for dioxin/furan congeners.

4.1.6 Retene

The water column benchmark for retene is 3.2 µg/L.

March 2007

All samples were non-detect for retene. The non-detect results were below the water column benchmark for all samples.

June 2007

All sample results were non-detect; however due to laboratory error, the reporting limit was raised to 1 µg/L, which remained below the water column benchmark.

4.1.7 Chlorinated Phenols

Tables 1 and 2 present the tabulated results for chlorophenolics. The water column benchmarks ranged from 0.18 to 11 µg/L and are listed for each analyte in the tables.

March 2007

Two samples contained detectable concentrations of chlorophenolics. The samples were LGP2-EFF-AQ-A-070302 and its duplicate LGP2-EFF-AQ_D-070302. The reported results were below the water column benchmarks.

June 2007

One sample contained detectable concentrations for chlorophenolics. The sample was LGP2-EFF-070621. The reported results were below the water column benchmarks.

5 SUMMARY

This report presents the results of sampling conducted during 2007 to complete the Quarterly Surface Water and Effluent Study both part of the Tier 1 ESA Monitoring and NPDES Permit Compliance Monitoring required in non-discretionary terms and conditions set forth by the Services in their Biological Opinions on the re-issuance of Potlatch's NPDES permit by EPA.

Surface water and effluent data were collected to monitor the water quality at:

- Two reference locations (Snake River upstream of the effluent and the Clearwater River upstream of the confluence with the Snake River)
- Six locations in the Snake River, downstream of the Potlatch effluent during quarterly monitoring.

All measurements from the 2007 monitoring complied with toxicity benchmarks and applicable water quality standards with the exception of the resin acids. Due to laboratory error, the detection limits reported for the resin acids were above the water column benchmark criteria. The resin acids were reported at 20 µg/L, while the water column benchmark for this analyte is 2.2 µg/L.

In conclusion, the results of sampling and analysis upstream and downstream of the Facility are consistent with the finding in EPA's Biological Evaluation and the Services' Biological Opinions that the EPA's re-issuance of Potlatch's NPDES permit is not likely to jeopardize the continued existence of Snake River steelhead, Snake River spring/summer and fall Chinook salmon, and Snake River sockeye salmon, nor result in the destruction or adverse modification of designated critical habitat for Snake River spring/summer and fall Chinook salmon and Snake River sockeye salmon.

6 REFERENCES

- AMEC Earth and Environmental, Inc. (AMEC) and Anchor Environmental (Anchor). 2005. Quality Assurance Project Plan for Endangered Species Act Monitoring and NPDES Permit Compliance Monitoring. Potlatch Corporation Lewiston Facility. May 2005.
- Davidson, T. 2007. Email from Toni Davidson of USFWS to Ali Wick of Anchor Environmental L.L.C. January 31, 2007. Subject: Re: Potlatch caged bivalve study option.
- EPA. 2003. Biological Evaluation of the Potlatch Corporation Pulp and Paper Mill in Lewiston, Idaho. December 2003.
- EPA. 1999. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*. EPA-540/R-99-008 (PB99-963506). October 1999
- EPA. 2004. EPA's Monitoring and Assessment Plan for Exposure and Effects of Effluents from the Potlatch Pulp and Paper Mill to ESA Listed Salmonids and their Habitats. U.S. Environmental Protection Agency, Region 10, Seattle, Washington. March 1, 2004.
- EPA. 2004. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*. OSWER 9240.1-45. EPA 540-R-04-004. October 2004
- EPA. 2005. *USEPA Contract Laboratory Program National Functional Guidelines for Chlorinated Dioxin/Furan Data Review*. EPA-540-R-05-001. September 2005
- EPA. 2005. Authorization to Discharge Under the National Pollutant Discharge Elimination System. Permit No.: ID0001163. Potlatch Corporation 803 Mill Road, Lewiston, Idaho. U.S. Environmental Protection Agency, Region 10, Seattle, Washington.
- Mebane, C. 2007. Personal communication (phone call) between Chris Mebane of NMFS and Shawn Hinz of Anchor Environmental L.L.C. December 2006.
- National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries). 2004. Endangered Species Act Section 7 Consultation Biological Opinion and Magnuson-

Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation.
April 2004.

Van den Berg, Martin, et. al. 1998. "Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife." Environmental Health Perspectives. Volume 106, Number 12, December 1998.

TABLES

Table 1
Summary of Analytical Results and Comparison with Benchmark Criteria – March 2007 Sampling Episode

Sampling Category	Water Column	2007 Hi-Vol Waters CR-REF CR-REF-SW-A FILTER-070226	2007 Hi-Vol Waters CR-REF CR-REF-SW-A-070226	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A FILTER-070302	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-070302	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D FILTER-070302	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D-070302	2007 Hi-Vol Waters LGP-02 LGP2-02-SW-A FILTER-070301
Sample Location	Benchmark	CR-REF-SW-A FILTER-070226	CR-REF CR-REF-SW-A-070226	LGP-01 LGP2-01-SW-A FILTER-070302	LGP-01 LGP2-01-SW-A-070302	LGP-01 LGP2-01-SW-D FILTER-070302	LGP-01 LGP2-01-SW-D-070302	LGP-02 LGP2-02-SW-A FILTER-070301
Sample Identification		2/26/2007	2/26/2007	3/2/2007	3/2/2007	3/2/2007	3/2/2007	3/1/2007
Sample Date		W	W	W	W	W	W	W
Sample Matrix	µg/L							
Conventional (mg/L)								
Dissolved organic carbon		--	3.0	--	2.6	--	2.4	--
Total organic carbon		--	3.0	--	2.8	--	2.8	--
Total suspended solids		--	5 UJ	--	5 U	--	5 U	--
Dioxin/Furans (pg/L)								
2,3,7,8-TCDD	0.06	0.00114 U	0.00162 U	0.00143 U	0.00171 U	0.00165 U	0.00108 U	0.00199 U
1,2,3,7,8-PeCDD		0.00224 U	0.00907 U	0.00699 J	0.00362 U	0.00672 U	0.0162 U	0.00279 U
1,2,3,4,7,8-HxCDD		0.00391 U	0.00354 U	0.0148 J	0.00474 U	0.00507 U	0.00214 U	0.00514 U
1,2,3,6,7,8-HxCDD		0.00625 U	0.00357 U	0.0377 J	0.00486 U	0.00625 U	0.00211 U	0.00625 U
1,2,3,7,8,9-HxCDD		0.00625 U	0.00368 U	0.0287 J	0.0049 U	0.00625 U	0.00218 U	0.00528 U
1,2,3,4,6,7,8-HpCDD		0.0829	0.016 J	0.33	0.00853 J	0.103	0.0142 J	0.106
OCDD		0.635	0.0834 J	1.04	0.0676 J	1.09	0.0656 J	0.732
2,3,7,8-TCDF	0.20	0.00185 U	0.00174 J	0.00412 UJ	0.00183 U	0.003 J	0.00172 J	0.00159 U
1,2,3,7,8-PeCDF		0.00624 U	0.00302 U	0.0113 J	0.00162 U	0.00625 U	0.00216 U	0.00566 U
2,3,4,7,8-PeCDF		0.00543 U	0.00284 U	0.0232 J	0.00143 U	0.00223 U	0.00206 U	0.00539 U
1,2,3,4,7,8-HxCDF		0.00625 U	0.00625 U	0.0374 J	0.00625 U	0.00625 U	0.000954 U	0.000693 U
1,2,3,6,7,8-HxCDF		0.00625 U	0.00625 U	0.0497 J	0.00625 U	0.00625 U	0.00625 U	0.000594 U
2,3,4,6,7,8-HxCDF		0.00625 U	0.00625 U	0.0725	0.0013 U	0.00625 U	0.00625 U	0.000665 U
1,2,3,7,8,9-HxCDF		0.000827 U	0.00113 U	0.0249 J	0.00625 U	0.00113 U	0.00122 U	0.000781 U
1,2,3,4,6,7,8-HpCDF		0.0173 J	0.00625 U	0.182	0.0097 J	0.0148 J	0.00625 U	0.0122 J
1,2,3,4,7,8,9-HpCDF		0.00163 U	0.00321 U	0.0668	0.00625 U	0.00199 U	0.00132 U	0.00256 U
OCDF		0.0404 J	0.0125 U	0.33 J	0.184	0.0338 J	0.0125 U	0.0244 J
Total Dioxin/Furan		0.776	0.101	2.26	0.27	1.24	0.0815	0.875
Total Dioxin/Furan TEQ 1998 (Bird)		0.000323	0.00176	0.0608	0.000131	0.00336	0.00174	0.000304
Total Dioxin/Furan TEQ 1998 (Fish)		0.000323	0.000111	0.0488	0.000131	0.000513	0.000107	0.000304
Total Dioxin/Furan TEQ 1998 (Mammal)	9	0.00107	0.000342	0.0521	0.000207	0.00159	0.000321	0.00126
Total Dioxin/Furan TEQ (Bird)		0.000323	0.00176	0.0608	0.000131	0.00336	0.00174	0.000304
Total Dioxin/Furan TEQ (Fish)		0.000323	0.000111	0.0488	0.000131	0.000513	0.000107	0.000304
Total Dioxin/Furan TEQ (Mammal)		0.0012	0.000359	0.0475	0.000258	0.00182	0.000334	0.00141
Resin Acids (µg/L)	1.0							
3,4,5-Trichloroguaiacol		--	20 UJ	--	20 UJ	--	20 UJ	--
Tetrachloroguaiacol		--	20 UJ	--	20 U	--	20 U	--
Linoleic Acid		--	20 UJ	--	20 UJ	--	20 UJ	--
Oleic Acid/Linolenic Acid		--	20 UJ	--	20 U	--	20 U	--
Pimaric acid		--	20 UJ	--	20 U	--	20 U	--
Isopimaric acid		--	20 UJ	--	20 UJ	--	20 UJ	--
Dehydroabietic acid		--	20 UJ	--	20 U	--	20 U	--
Abietic acid		--	20 UJ	--	20 UJ	--	20 UJ	--
9,10-Dichlorostearic Acid		--	20 UJ	--	20 U	--	20 U	--
14-Chlorodehydroabietic acid		--	20 UJ	--	20 U	--	20 U	--
12-Chlorodehydroabietic acid		--	20 UJ	--	20 U	--	20 U	--
Dichlorodehydroabietic acid		--	20 UJ	--	20 U	--	20 U	--
Phenols (µg/L)								
2,4,5-Trichlorophenol	3.4	--	0.005 U	--	0.005 U	--	0.005 U	--
2,4,6-Trichlorophenol	7.3	--	0.005 U	--	0.005 U	--	0.005 U	--
2,3,4,6-Tetrachlorophenol	3.3	--	0.005 U	--	0.005 U	--	0.005 U	--
Pentachlorophenol	0.18	--	0.01 U	--	0.01 U	--	0.01 U	--
3,4,5-Trichloroguaiacol	3.4	--	0.005 U	--	0.005 U	--	0.005 U	--

Table 1
Summary of Analytical Results and Comparison with Benchmark Criteria – March 2007 Sampling Episode

Sampling Category	Water Column	2007 Hi-Vol Waters CR-REF CR-REF-SW-A FILTER-070226	2007 Hi-Vol Waters CR-REF CR-REF-SW-A-070226	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A FILTER-070302	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-070302	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D FILTER-070302	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D-070302	2007 Hi-Vol Waters LGP-02 LGP2-02-SW-A FILTER-070301
Sample Location	Benchmark	2/26/2007 W	2/26/2007 W	3/2/2007 W	3/2/2007 W	3/2/2007 W	3/2/2007 W	3/1/2007 W
Sample Identification								
Sample Date								
Sample Matrix	µg/L							
3,4,6-Trichloroguaiacol	3.4	--	0.005 U	--	0.005 U	--	0.005 U	--
4,5,6-Trichloroguaiacol	11	--	0.005 U	--	0.005 U	--	0.005 U	--
Tetrachloroguaiacol	7.5	--	0.01 U	--	0.01 U	--	0.01 U	--
3,4,5-Trichlorocatechol	3.4	--	0.01 U	--	0.01 U	--	0.01 U	--
3,4,6-Trichlorocatechol	3.4	--	0.01 U	--	0.01 U	--	0.01 U	--
Tetrachlorocatechol	2.0	--	0.01 U	--	0.01 U	--	0.01 U	--
Trichlorosyringol	3.4	--	0.005 U	--	0.005 U	--	0.005 U	--
Chlorophenols toxic unit sum								
Retene (µg/L)								
Retene	0.5	--	0.05 UJ	--	0.059 U	--	0.052 U	--
beta-Sitosterol (µg/L)								
beta-Sitosterol	1.0	--	0.54 UJ	--	0.29 J	--	0.5 J	--
VOCs (µg/L)								
Chloroform	12.4	--	0.5 U	--	0.5 U	--	0.5 U	--

Table 1
Summary of Analytical Results and Comparison with Benchmark Criteria – March 2007 Sampling Episode

Sampling Category	2007 Hi-Vol Waters LGP-02	2007 Hi-Vol Waters LGP-03	2007 Hi-Vol Waters LGP-03	2007 Hi-Vol Waters LGP-04	2007 Hi-Vol Waters LGP-04	2007 Hi-Vol Waters LGP-04	2007 Hi-Vol Waters LGP-05	2007 Hi-Vol Waters LGP-05
Sample Location	LGP2-02-SW-A-070301	LGP2-03-SW-A FILTER-070301	LGP2-03-SW-A-070301	LGP2-04-SW-A FILTER-070228	LGP2-04-SW-A-070302	LGP2-04-SW-A-070302	LGP2-05-SW-A FILTER-070228	LGP2-05-SW-A-070302
Sample Identification								
Sample Date	3/1/2007	3/1/2007	3/1/2007	2/28/2007	2/28/2007	2/28/2007	2/28/2007	2/28/2007
Sample Matrix	W	W	W	W	W	W	W	W
Conventional (mg/L)								
Dissolved organic carbon	2.4	--	2.2	--	2.1	--	--	2.6
Total organic carbon	2.7	--	2.4	--	2.7	--	--	3.0
Total suspended solids	5 U	--	5 U	--	5	--	--	5 U
Dioxin/Furans (pg/L)								
2,3,7,8-TCDD	0.0007 U	0.00116 U	0.00258 U	0.00167 U	0.00224 U	0.00167 U	0.0016 U	0.0016 U
1,2,3,7,8-PeCDD	0.00826 U	0.00111 U	0.0113 U	0.00234 U	0.00644 U	0.00246 U	0.00926 U	0.00926 U
1,2,3,4,7,8-HxCDD	0.002 U	0.00342 U	0.00374 U	0.003 U	0.00411 U	0.00398 U	0.00261 U	0.00261 U
1,2,3,6,7,8-HxCDD	0.00193 U	0.00339 U	0.00383 U	0.00625 U	0.00429 U	0.00396 U	0.00257 U	0.00257 U
1,2,3,7,8,9-HxCDD	0.0019 U	0.00625 U	0.00389 U	0.00303 U	0.00417 U	0.00394 U	0.00263 U	0.00263 U
1,2,3,4,6,7,8-HpCDD	0.0098 J	0.0546 J	0.0101 J	0.131	0.015 J	0.0788	0.0106 J	
OCDD	0.0359 J	0.546	0.0477 J	0.952	0.0741 J	0.729	0.0643 J	
2,3,7,8-TCDF	0.0024 J	0.00255 U	0.00167 U	0.00275 J	0.00256 J	0.00174 U	0.00117 U	
1,2,3,7,8-PeCDF	0.00256 U	0.00409 U	0.00294 U	0.00366 U	0.00274 U	0.00555 U	0.00172 U	
2,3,4,7,8-PeCDF	0.00625 U	0.00378 U	0.0028 U	0.00302 U	0.00625 U	0.00493 U	0.00159 U	
1,2,3,4,7,8-HxCDF	0.000695 U	0.000811 U	0.000903 U	0.00625 U	0.00625 U	0.00122 U	0.000542 U	
1,2,3,6,7,8-HxCDF	0.000634 U	0.000781 U	0.000806 U	0.00625 U	0.00625 U	0.00114 U	0.000505 U	
2,3,4,6,7,8-HxCDF	0.00625 U	0.000875 U	0.000932 U	0.00098 U	0.00625 U	0.00131 U	0.00625 U	
1,2,3,7,8,9-HxCDF	0.000925 U	0.00106 U	0.00111 U	0.00118 U	0.00188 U	0.00151 U	0.000671 U	
1,2,3,4,6,7,8-HpCDF	0.00625 U	0.0124 J	0.00625 U	0.0188 J	0.00779 J	0.011 J	0.00625 U	
1,2,3,4,7,8,9-HpCDF	0.00266 U	0.0017 U	0.00285 U	0.00253 U	0.00198 U	0.00225 U	0.00383 U	
OCDF	0.0068 U	0.0298 J	0.0137 U	0.0422 J	0.0162 J	0.0195 J	0.00849 U	
Total Dioxin/Furan	0.0481	0.643	0.0578	1.15	0.116	0.838	0.0749	
Total Dioxin/Furan TEQ 1998 (Bird)	0.00241	0.000236	0.0000149	0.00317	0.00266	0.000264	0.000017	
Total Dioxin/Furan TEQ 1998 (Fish)	0.000133	0.000236	0.0000149	0.000556	0.00023	0.000264	0.000017	
Total Dioxin/Furan TEQ 1998 (Mammal)	0.000342	0.000728	0.000106	0.00187	0.000493	0.000973	0.000112	
Total Dioxin/Furan TEQ (Bird)	0.00241	0.000236	0.0000149	0.00317	0.00266	0.000264	0.000017	
Total Dioxin/Furan TEQ (Fish)	0.000133	0.000236	0.0000149	0.000556	0.00023	0.000264	0.000017	
Total Dioxin/Furan TEQ (Mammal)	0.000349	0.000843	0.000115	0.00207	0.000511	0.00112	0.000125	
Resin Acids (µg/L)								
3,4,5-Trichloroguaiacol	20 UJ	--	20 UJ	--	20 UJ	--	--	20 UJ
Tetrachloroguaiacol	20 U	--	20 U	--	20 U	--	--	20 U
Linoleic Acid	20 UJ	--	20 UJ	--	20 UJ	--	--	20 UJ
Oleic Acid/Linolenic Acid	20 U	--	20 U	--	20 U	--	--	20 U
Pimaric acid	20 U	--	20 U	--	20 U	--	--	20 U
Isopimaric acid	20 UJ	--	20 UJ	--	20 UJ	--	--	20 UJ
Dehydroabietic acid	20 U	--	20 U	--	20 U	--	--	20 U
Abietic acid	20 UJ	--	20 UJ	--	20 UJ	--	--	20 UJ
9,10-Dichlorostearic Acid	20 U	--	20 U	--	20 U	--	--	20 U
14-Chlorodehydroabietic acid	20 U	--	20 U	--	20 U	--	--	20 U
12-Chlorodehydroabietic acid	20 U	--	20 U	--	20 U	--	--	20 U
Dichlorodehydroabietic acid	20 U	--	20 U	--	20 U	--	--	20 U
Phenols (µg/L)								
2,4,5-Trichlorophenol	0.005 U	--	0.005 U	--	0.005 U	--	--	0.005 U
2,4,6-Trichlorophenol	0.005 U	--	0.005 U	--	0.005 U	--	--	0.005 U
2,3,4,6-Tetrachlorophenol	0.005 U	--	0.005 U	--	0.005 U	--	--	0.005 U
Pentachlorophenol	0.01 U	--	0.01 U	--	0.01 U	--	--	0.01 U
3,4,5-Trichloroguaiacol	0.005 U	--	0.005 U	--	0.005 U	--	--	0.005 U

Table 1
Summary of Analytical Results and Comparison with Benchmark Criteria – March 2007 Sampling Episode

Sampling Category	2007 Hi-Vol Waters LGP-02	2007 Hi-Vol Waters LGP-03	2007 Hi-Vol Waters LGP-03	2007 Hi-Vol Waters LGP-04	2007 Hi-Vol Waters LGP-04	2007 Hi-Vol Waters LGP-05	2007 Hi-Vol Waters LGP-05
Sample Location	LGP2-02-SW-A-070301	LGP2-03-SW-A FILTER-070301	LGP2-03-SW-A-070301	LGP2-04-SW-A FILTER-070228	LGP2-04-SW-A-070302	LGP2-05-SW-A FILTER-070228	LGP2-05-SW-A-070302
Sample Identification							
Sample Date	3/1/2007	3/1/2007	3/1/2007	2/28/2007	2/28/2007	2/28/2007	2/28/2007
Sample Matrix	W	W	W	W	W	W	W
3,4,6-Trichloroguaiacol	0.005 U	--	0.005 U	--	0.005 U	--	0.005 U
4,5,6-Trichloroguaiacol	0.005 U	--	0.005 U	--	0.005 U	--	0.005 U
Tetrachloroguaiacol	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U
3,4,5-Trichlorocatechol	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U
3,4,6-Trichlorocatechol	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U
Tetrachlorocatechol	0.01 U	--	0.01 U	--	0.01 U	--	0.01 U
Trichlorosyringol	0.005 U	--	0.005 U	--	0.005 U	--	0.005 U
Chlorophenols toxic unit sum							
Retene (µg/L)							
Retene	0.054 U	--	0.05 U	--	0.053 U	--	0.05 U
beta-Sitosterol (µg/L)							
beta-Sitosterol	0.44 J	--	0.42 J	--	0.40 J	--	0.32 J
VOCs (µg/L)							
Chloroform	0.5 U	--	0.5 U	--	0.5 U	--	0.5 U

Table 1
Summary of Analytical Results and Comparison with Benchmark Criteria – March 2007 Sampling Episode

Sampling Category Sample Location Sample Identification Sample Date Sample Matrix	2007 Hi-Vol Waters LGP-EFF LGP2-EFF-AQ-A FILTER-070302 3/2/2007 W	2007 Hi-Vol Waters LGP-EFF LGP2-EFF-AQ-A-070302 3/2/2007 W	2007 Hi-Vol Waters SR-REF SR-REF-SW-A FILTER-070227 2/27/2007 W	2007 Hi-Vol Waters SR-REF SR-REF-SW-A-070227 2/27/2007 W
Conventional (mg/L)				
Dissolved organic carbon	--	111	--	2.4
Total organic carbon	--	143	--	2.3
Total suspended solids	--	60	--	5 UJ
Dioxin/Furans (pg/L)				
2,3,7,8-TCDD	0.00498 J	0.0037 U	0.00121 U	0.00163 U
1,2,3,7,8-PeCDD	0.00625 U	0.00294 U	0.0018 U	0.00936 U
1,2,3,4,7,8-HxCDD	0.00689 J	0.0039 U	0.00436 U	0.00272 U
1,2,3,6,7,8-HxCDD	0.00625 U	0.00625 U	0.00405 U	0.00272 U
1,2,3,7,8,9-HxCDD	0.007 J	0.00625 U	0.00427 U	0.00278 U
1,2,3,4,6,7,8-HpCDD	0.0833	0.0153 J	0.0597 J	0.0129 J
OCDD	0.494	0.0461 J	0.428	0.0632 J
2,3,7,8-TCDF	0.0448	0.0161	0.00359 U	0.00133 U
1,2,3,7,8-PeCDF	0.00848 J	0.00625 U	0.00607 U	0.00251 U
2,3,4,7,8-PeCDF	0.0161 J	0.00625 U	0.00562 U	0.00235 U
1,2,3,4,7,8-HxCDF	0.00895 J	0.00129 U	0.000643 U	0.0014 U
1,2,3,6,7,8-HxCDF	0.00625 U	0.00127 U	0.000621 U	0.00133 U
2,3,4,6,7,8-HxCDF	0.00973 J	0.00138 U	0.000702 U	0.00143 U
1,2,3,7,8,9-HxCDF	0.00625 U	0.00158 U	0.00086 U	0.00162 U
1,2,3,4,6,7,8-HpCDF	0.0186 J	0.00625 U	0.00812 J	0.00625 U
1,2,3,4,7,8,9-HpCDF	0.00209 U	0.00242 U	0.00189 U	0.00236 U
OCDF	0.017 J	0.0101 U	0.0231 J	0.0125 U
Total Dioxin/Furan	0.72	0.0775	0.519	0.0761
Total Dioxin/Furan TEQ 1998 (Bird)	0.07	0.0161	0.000186	0.0000192
Total Dioxin/Furan TEQ 1998 (Fish)	0.0214	0.000825	0.000186	0.0000192
Total Dioxin/Furan TEQ 1998 (Mammal)	0.0223	0.00177	0.000723	0.000135
Total Dioxin/Furan TEQ (Bird)	0.07	0.0161	0.000186	0.0000192
Total Dioxin/Furan TEQ (Fish)	0.0214	0.000825	0.000186	0.0000192
Total Dioxin/Furan TEQ (Mammal)	0.019	0.00178	0.000814	0.000148
Resin Acids (µg/L)				
3,4,5-Trichloroguaiacol	--	20 UJ	--	20 UJ
Tetrachloroguaiacol	--	20 U	--	20 U
Linoleic Acid	--	59 J	--	20 UJ
Oleic Acid/Linolenic Acid	--	23	--	20 U
Pimaric acid	--	20 U	--	20 U
Isopimaric acid	--	20 UJ	--	20 UJ
Dehydroabietic acid	--	13 J	--	20 U
Abietic acid	--	20 U	--	20 UJ
9,10-Dichlorostearic Acid	--	20 U	--	20 U
14-Chlorodehydroabietic acid	--	20 U	--	20 U
12-Chlorodehydroabietic acid	--	20 U	--	20 U
Dichlorodehydroabietic acid	--	20 U	--	20 U
Phenols (µg/L)				
2,4,5-Trichlorophenol	--	0.005 U	--	0.005 U
2,4,6-Trichlorophenol	--	0.15	--	0.005 U
2,3,4,6-Tetrachlorophenol	--	0.005 U	--	0.005 U
Pentachlorophenol	--	0.01 U	--	0.01 U
3,4,5-Trichloroguaiacol	--	0.02 J	--	0.005 U

Table 1
Summary of Analytical Results and Comparison with Benchmark Criteria – March 2007 Sampling Episode

Sampling Category	2007 Hi-Vol Waters LGP-EFF	2007 Hi-Vol Waters LGP-EFF	2007 Hi-Vol Waters SR-REF	2007 Hi-Vol Waters SR-REF
Sample Location	LGP2-EFF-AQ-A FILTER-070302	LGP2-EFF-AQ-A-070302	SR-REF-SW-A FILTER-070227	SR-REF-SW-A-070227
Sample Identification	3/2/2007	3/2/2007	2/27/2007	2/27/2007
Sample Date	W	W	W	W
Sample Matrix				
3,4,6-Trichloroguaiacol	--	0.016	--	0.005 U
4,5,6-Trichloroguaiacol	--	0.093	--	0.005 U
Tetrachloroguaiacol	--	0.011	--	0.01 U
3,4,5-Trichlorocatechol	--	0.01 U	--	0.01 U
3,4,6-Trichlorocatechol	--	0.01 U	--	0.01 U
Tetrachlorocatechol	--	0.01 U	--	0.01 U
Trichlorosyringol	--	0.005 U	--	0.005 U
Chlorophenols toxic unit sum		0.29		
Retene (µg/L)				
Retene	--	0.052 U	--	0.05 UJ
beta-Sitosterol (µg/L)				
beta-Sitosterol	--	7.8 J	--	0.86 J
VOCs (µg/L)				
Chloroform	--	1.0	--	0.5 U

Note:

Denotes reporting limit above toxicity benchmark

Denotes result above toxicity benchmark

Bold = Detected

U = The compound was analyzed for, but was not detected ("Non-detect") at or above the method reporting limit/method detection limit.

J = The result is an estimated concentration that is less than the method reporting limit but greater than or equal to the method detection limit.

CR- REF = Clearwater Reference station

SR-REF = Snake River Reference station

LGP = Lower Granite Pool

Dioxin/Furan TEQ is per section J, of permit ID0001163.

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category Sample Location Sample Identification Sample Date Sample Matrix	Water Column Benchmark µg/L	2007 Hi-Vol Waters CR-REF CR-REF-SW-A-FILTER-070606 6/6/2007 W	2007 Hi-Vol Waters CR-REF CR-REF-SW-A-PUF_N/A-070606 6/6/2007 W	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-FILTER-070608 6/8/2007 W	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-PUF_N/A-070608 6/8/2007 W	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D FILTER-070302 3/2/2007 W	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D-070302 3/2/2007 W
Conventional (mg/L)							
Dissolved organic carbon		--	--	--	--	--	2.4
Total organic carbon		--	--	--	--	--	2.8
Total suspended solids		--	--	--	--	--	5 U
Dioxin/Furans (pg/L)							
2,3,7,8-TCDD	0.06	0.00472 U	0.00257 U	0.00315 U	0.00172 U	0.00165 U	0.00108 U
1,2,3,7,8-PeCDD		0.00496 U	0.00711 U	0.00864 U	0.00406 U	0.00672 U	0.0162 U
1,2,3,4,7,8-HxCDD		0.00654 U	0.00781 U	0.00696 U	0.00862 U	0.00507 U	0.00214 U
1,2,3,6,7,8-HxCDD		0.0125 U	0.0078 U	0.0125 U	0.00878 U	0.00625 U	0.00211 U
1,2,3,7,8,9-HxCDD		0.00707 U	0.00901 U	0.00794 U	0.00953 U	0.00625 U	0.00218 U
1,2,3,4,6,7,8-HpCDD		0.305	0.0083 U	0.147	0.011 U	0.103	0.0142 J
OCDD		1.94	0.0426 J	1.02	0.0597 J	1.09	0.0656 J
2,3,7,8-TCDF	0.20	0.00254 U	0.00449 U	0.00462 J	0.00147 U	0.003 J	0.00172 J
1,2,3,7,8-PeCDF		0.00386 U	0.00455 U	0.00428 U	0.00325 U	0.00625 U	0.00216 U
2,3,4,7,8-PeCDF		0.00328 U	0.00407 U	0.00384 U	0.00281 U	0.00223 U	0.00206 U
1,2,3,4,7,8-HxCDF		0.0125 U	0.00234 U	0.00188 U	0.00625 U	0.00625 U	0.000954 U
1,2,3,6,7,8-HxCDF		0.00157 U	0.00224 U	0.00186 U	0.00124 U	0.00625 U	0.00625 U
2,3,4,6,7,8-HxCDF		0.00179 U	0.00249 U	0.0125 U	0.00138 U	0.00625 U	0.00625 U
1,2,3,7,8,9-HxCDF		0.00216 U	0.00341 U	0.00262 U	0.00723 J	0.00113 U	0.00122 U
1,2,3,4,6,7,8-HpCDF		0.0403 J	0.00371 U	0.0304 J	0.00625 U	0.0148 J	0.00625 U
1,2,3,4,7,8,9-HpCDF		0.00395 U	0.00563 U	0.00343 U	0.00202 U	0.00199 U	0.00132 U
OCDF		0.0709 J	0.013 U	0.0889 J	0.0065 U	0.0338 J	0.0125 U
Total Dioxin/Furan		2.36	0.0426	1.29	0.0669	1.24	0.0815
Total Dioxin/Furan TEQ 1998 (Bird)		0.000909	0.00000426	0.00518	0.000729	0.00336	0.00174
Total Dioxin/Furan TEQ 1998 (Fish)		0.000909	0.00000426	0.000793	0.000729	0.000513	0.000107
Total Dioxin/Furan TEQ 1998 (Mammal)	9	0.00365	0.00000426	0.00235	0.000729	0.00159	0.000321
Total Dioxin/Furan TEQ (Bird)		0.000909	0.00000426	0.00518	0.000729	0.00336	0.00174
Total Dioxin/Furan TEQ (Fish)		0.000909	0.00000426	0.000793	0.000729	0.000513	0.000107
Total Dioxin/Furan TEQ (Mammal)		0.00406	0.0000128	0.00257	0.000741	0.00182	0.000334
Resin Acids (µg/L)							
3,4,5-Trichloroguaiacol		--	--	--	--	--	20 UJ
Tetrachloroguaiacol		--	--	--	--	--	20 U
Linoleic Acid		--	--	--	--	--	20 UJ
Oleic Acid/Linolenic Acid		--	--	--	--	--	20 U
Pimaric acid		--	--	--	--	--	20 U
Isopimaric acid		--	--	--	--	--	20 UJ
Dehydroabietic acid		--	--	--	--	--	20 U
Abietic acid		--	--	--	--	--	20 UJ
9,10-Dichlorostearic Acid		--	--	--	--	--	20 U
14-Chlorodehydroabietic acid		--	--	--	--	--	20 U
12-Chlorodehydroabietic acid		--	--	--	--	--	20 U
Dichlorodehydroabietic acid		--	--	--	--	--	20 U
Phenols (µg/L)							
2,4,5-Trichlorophenol	3.4	--	--	--	--	--	0.005 U
2,4,6-Trichlorophenol	7.3	--	--	--	--	--	0.005 U
2,3,4,6-Tetrachlorophenol	3.3	--	--	--	--	--	0.005 U
Pentachlorophenol	0.18	--	--	--	--	--	0.01 U
3,4,5-Trichloroguaiacol	3.4	--	--	--	--	--	0.005 U

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category	Water Column	2007 Hi-Vol Waters CR-REF CR-REF-SW-A-FILTER-070606	2007 Hi-Vol Waters CR-REF CR-REF-SW-A-PUF_N/A-070606	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-FILTER-070608	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-PUF_N/A-070608	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D FILTER-070302	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D-070302
Sample Location	Benchmark	CR-REF-SW-A-FILTER-070606 6/6/2007 W	CR-REF-SW-A-PUF_N/A-070606 6/6/2007 W	LGP2-01-SW-A-FILTER-070608 6/8/2007 W	LGP2-01-SW-A-PUF_N/A-070608 6/8/2007 W	LGP2-01-SW-D FILTER-070302 3/2/2007 W	LGP2-01-SW-D-070302 3/2/2007 W
Sample Identification	Sample Date	Sample Matrix	Benchmark	Sample Matrix	Benchmark	Sample Matrix	Benchmark
3,4,6-Trichloroguaiacol	3.4	--	--	--	--	--	0.005 U
4,5,6-Trichloroguaiacol	11	--	--	--	--	--	0.005 U
Tetrachloroguaiacol	7.5	--	--	--	--	--	0.01 U
3,4,5-Trichlorocatechol	3.4	--	--	--	--	--	0.01 U
3,4,6-Trichlorocatechol	3.4	--	--	--	--	--	0.01 U
Tetrachlorocatechol	2.0	--	--	--	--	--	0.01 U
Trichlorosyringol	3.4	--	--	--	--	--	0.005 U
Chlorophenols toxic unit sum							
Retene (µg/L)							
Retene	0.5	--	--	--	--	--	0.052 U
beta-Sitosterol (µg/L)							
beta-Sitosterol	1.0	--	--	--	--	--	0.5 J
VOCs (µg/L)							
Chloroform	12.4	--	--	--	--	--	0.5 U

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category Sample Location Sample Identification Sample Date Sample Matrix	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D-FILTER-070608 6/8/2007 W	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D-PUF_N/A-070608 6/8/2007 W	2007 Hi-Vol Waters LGP-02 LGP2-02-070621 6/21/2007 W	2007 Hi-Vol Waters LGP-02 LGP2-02-SW-A FILTER-070301 3/1/2007 W	2007 Hi-Vol Waters LGP-02 LGP2-02-SW-A-070301 3/1/2007 W	2007 Hi-Vol Waters LGP-02 LGP2-02-SW-A-FILTER-070607 6/7/2007 W
Conventional (mg/L)						
Dissolved organic carbon	--	--	2.2	--	2.4	--
Total organic carbon	--	--	2.3	--	2.7	--
Total suspended solids	--	--	7	--	5 U	--
Dioxin/Furans (pg/L)						
2,3,7,8-TCDD	0.00566 U	0.00178 U	--	0.00199 U	0.0007 U	0.00396 U
1,2,3,7,8-PeCDD	0.00961 U	0.00469 U	--	0.00279 U	0.00826 U	0.00702 U
1,2,3,4,7,8-HxCDD	0.00606 U	0.0142 U	--	0.00514 U	0.002 U	0.00682 U
1,2,3,6,7,8-HxCDD	0.0132 J	0.0136 U	--	0.00625 U	0.00193 U	0.00704 U
1,2,3,7,8,9-HxCDD	0.0125 U	0.0154 U	--	0.00528 U	0.0019 U	0.00785 U
1,2,3,4,6,7,8-HpCDD	0.316	0.00842 U	--	0.106	0.0098 J	0.162
OCDD	2.05	0.0223 J	--	0.732	0.0359 J	1.24
2,3,7,8-TCDF	0.00662 J	0.00214 U	--	0.00159 U	0.0024 J	0.00374 J
1,2,3,7,8-PeCDF	0.0125 U	0.00371 U	--	0.00566 U	0.00256 U	0.00334 U
2,3,4,7,8-PeCDF	0.0125 U	0.00338 U	--	0.00539 U	0.00625 U	0.00316 U
1,2,3,4,7,8-HxCDF	0.0125 U	0.00198 U	--	0.000693 U	0.000695 U	0.0125 U
1,2,3,6,7,8-HxCDF	0.0125 U	0.00198 U	--	0.000594 U	0.000634 U	0.0125 U
2,3,4,6,7,8-HxCDF	0.0125 U	0.00211 U	--	0.000665 U	0.00625 U	0.00259 U
1,2,3,7,8,9-HxCDF	0.00272 U	0.00295 U	--	0.000781 U	0.000925 U	0.00313 U
1,2,3,4,6,7,8-HpCDF	0.0455 J	0.00397 U	--	0.0122 J	0.00625 U	0.0394 J
1,2,3,4,7,8,9-HpCDF	0.00667 U	0.00608 U	--	0.00256 U	0.00266 U	0.00609 U
OCDF	0.16 J	0.0127 U	--	0.0244 J	0.0068 U	0.0995 J
Total Dioxin/Furan	2.59	0.0223	--	0.875	0.0481	1.54
Total Dioxin/Furan TEQ 1998 (Bird)	0.00774	0.00000223	--	0.000304	0.00241	0.00443
Total Dioxin/Furan TEQ 1998 (Fish)	0.00146	0.00000223	--	0.000304	0.000133	0.000877
Total Dioxin/Furan TEQ 1998 (Mammal)	0.00582	0.00000223	--	0.00126	0.000342	0.00252
Total Dioxin/Furan TEQ (Bird)	0.00774	0.00000223	--	0.000304	0.00241	0.00443
Total Dioxin/Furan TEQ (Fish)	0.00146	0.00000223	--	0.000304	0.000133	0.000877
Total Dioxin/Furan TEQ (Mammal)	0.00626	0.00000669	--	0.00141	0.000349	0.00279
Resin Acids (µg/L)						
3,4,5-Trichloroguaiacol	--	--	20 U	--	20 UJ	--
Tetrachloroguaiacol	--	--	20 U	--	20 U	--
Linoleic Acid	--	--	4.4 J	--	20 UJ	--
Oleic Acid/Linolenic Acid	--	--	20 U	--	20 U	--
Pimaric acid	--	--	20 U	--	20 U	--
Isopimaric acid	--	--	20 U	--	20 UJ	--
Dehydroabietic acid	--	--	20 U	--	20 U	--
Abietic acid	--	--	20 U	--	20 UJ	--
9,10-Dichlorostearic Acid	--	--	20 U	--	20 U	--
14-Chlorodehydroabietic acid	--	--	20 U	--	20 U	--
12-Chlorodehydroabietic acid	--	--	20 U	--	20 U	--
Dichlorodehydroabietic acid	--	--	20 U	--	20 U	--
Phenols (µg/L)						
2,4,5-Trichlorophenol	--	--	0.005 U	--	0.005 U	--
2,4,6-Trichlorophenol	--	--	0.005 U	--	0.005 U	--
2,3,4,6-Tetrachlorophenol	--	--	0.005 U	--	0.005 U	--
Pentachlorophenol	--	--	0.01 U	--	0.01 U	--
3,4,5-Trichloroguaiacol	--	--	0.005 U	--	0.005 U	--

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category	2007 Hi-Vol Waters LGP-01	2007 Hi-Vol Waters LGP-01	2007 Hi-Vol Waters LGP-02	2007 Hi-Vol Waters LGP-02	2007 Hi-Vol Waters LGP-02	2007 Hi-Vol Waters LGP-02
Sample Location	LGP2-01-SW-D-FILTER-070608	LGP2-01-SW-D-PUF_N/A-070608	LGP2-02-070621	LGP2-02-SW-A FILTER-070301	LGP2-02-SW-A-070301	LGP2-02-SW-A-FILTER-070607
Sample Identification						
Sample Date	6/8/2007	6/8/2007	6/21/2007	3/1/2007	3/1/2007	6/7/2007
Sample Matrix	W	W	W	W	W	W
3,4,6-Trichloroguaiacol	--	--	0.005 U	--	0.005 U	--
4,5,6-Trichloroguaiacol	--	--	0.005 U	--	0.005 U	--
Tetrachloroguaiacol	--	--	0.01 U	--	0.01 U	--
3,4,5-Trichlorocatechol	--	--	0.01 U	--	0.01 U	--
3,4,6-Trichlorocatechol	--	--	0.01 U	--	0.01 U	--
Tetrachlorocatechol	--	--	0.01 U	--	0.01 U	--
Trichlorosyringol	--	--	0.005 U	--	0.005 U	--
Chlorophenols toxic unit sum						
Retene ($\mu\text{g/L}$)						
Retene	--	--	1 U	--	0.054 U	--
beta-Sitosterol ($\mu\text{g/L}$)						
beta-Sitosterol	--	--	0.41 J	--	0.44 J	--
VOCs ($\mu\text{g/L}$)						
Chloroform	--	--	0.5 U	--	0.5 U	--

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category	2007 Hi-Vol Waters LGP-02	2007 Hi-Vol Waters LGP-03	2007 Hi-Vol Waters LGP-04				
Sample Location	LGP2-02-SW-A-PUF_N/A-070607	LGP2-03-070621	LGP2-03-SW-A FILTER-070301	LGP2-03-SW-A-070301	LGP2-03-SW-A-FILTER-070607	LGP2-03-SW-A-PUF_N/A-070607	LGP2-04-070621
Sample Identification							
Sample Date	6/7/2007	6/21/2007	3/1/2007	3/1/2007	6/7/2007	6/7/2007	6/21/2007
Sample Matrix	W	W	W	W	W	W	W
Conventional (mg/L)							
Dissolved organic carbon	--	2.3	--	2.2	--	--	2.2
Total organic carbon	--	2.5	--	2.4	--	--	2.3
Total suspended solids	--	5 U	--	5 U	--	--	5 U
Dioxin/Furans (pg/L)							
2,3,7,8-TCDD	0.00225 U	--	0.00116 U	0.00258 U	0.00565 U	0.00371 U	--
1,2,3,7,8-PeCDD	0.00585 U	--	0.00111 U	0.0113 U	0.013 U	0.00254 U	--
1,2,3,4,7,8-HxCDD	0.00874 U	--	0.00342 U	0.00374 U	0.0106 U	0.00763 U	--
1,2,3,6,7,8-HxCDD	0.0091 U	--	0.00339 U	0.00383 U	0.0173 J	0.00782 U	--
1,2,3,7,8,9-HxCDD	0.00993 U	--	0.00625 U	0.00389 U	0.0123 U	0.00842 U	--
1,2,3,4,6,7,8-HpCDD	0.0313 U	--	0.0546 J	0.0101 J	0.411	0.00778 U	--
OCDD	0.068 J	--	0.546	0.0477 J	2.36	0.0519 J	--
2,3,7,8-TCDF	0.00274 U	--	0.00255 U	0.00167 U	0.00536 U	0.00242 U	--
1,2,3,7,8-PeCDF	0.00519 U	--	0.00409 U	0.00294 U	0.0107 U	0.00651 U	--
2,3,4,7,8-PeCDF	0.00447 U	--	0.00378 U	0.0028 U	0.0101 U	0.00576 U	--
1,2,3,4,7,8-HxCDF	0.0033 U	--	0.000811 U	0.000903 U	0.00224 U	0.00203 U	--
1,2,3,6,7,8-HxCDF	0.00311 U	--	0.000781 U	0.000806 U	0.0125 U	0.00192 U	--
2,3,4,6,7,8-HxCDF	0.00365 U	--	0.000875 U	0.000932 U	0.00222 U	0.00212 U	--
1,2,3,7,8,9-HxCDF	0.00479 U	--	0.00106 U	0.00111 U	0.00409 U	0.00277 U	--
1,2,3,4,6,7,8-HpCDF	0.00342 U	--	0.0124 J	0.00625 U	0.0428 J	0.00232 U	--
1,2,3,4,7,8,9-HpCDF	0.00505 U	--	0.0017 U	0.00285 U	0.0582 UJ	0.00351 U	--
OCDF	0.0153 U	--	0.0298 J	0.0137 U	0.925 UJ	0.0147 U	--
Total Dioxin/Furan	0.068	--	0.643	0.0578	2.83	0.0519	--
Total Dioxin/Furan TEQ 1998 (Bird)	0.0000068	--	0.000236	0.0000149	0.00125	0.00000519	--
Total Dioxin/Furan TEQ 1998 (Fish)	0.0000068	--	0.000236	0.0000149	0.00125	0.00000519	--
Total Dioxin/Furan TEQ 1998 (Mammal)	0.0000068	--	0.000728	0.000106	0.0065	0.00000519	--
Total Dioxin/Furan TEQ (Bird)	0.0000068	--	0.000236	0.0000149	0.00125	0.00000519	--
Total Dioxin/Furan TEQ (Fish)	0.0000068	--	0.000236	0.0000149	0.00125	0.00000519	--
Total Dioxin/Furan TEQ (Mammal)	0.0000204	--	0.000843	0.000115	0.00698	0.0000156	--
Resin Acids (µg/L)							
3,4,5-Trichloroguaiacol	--	20 U	--	20 UJ	--	--	20 U
Tetrachloroguaiacol	--	20 U	--	20 U	--	--	20 U
Linoleic Acid	--	20 U	--	20 UJ	--	--	20 U
Oleic Acid/Linolenic Acid	--	20 U	--	20 U	--	--	20 U
Pimaric acid	--	20 U	--	20 U	--	--	20 U
Isopimaric acid	--	20 U	--	20 UJ	--	--	20 U
Dehydroabietic acid	--	20 U	--	20 U	--	--	20 U
Abietic acid	--	20 U	--	20 UJ	--	--	20 U
9,10-Dichlorostearic Acid	--	20 U	--	20 U	--	--	20 U
14-Chlorodehydroabietic acid	--	20 U	--	20 U	--	--	20 U
12-Chlorodehydroabietic acid	--	20 U	--	20 U	--	--	20 U
Dichlorodehydroabietic acid	--	20 U	--	20 U	--	--	20 U
Phenols (µg/L)							
2,4,5-Trichlorophenol	--	0.005 U	--	0.005 U	--	--	0.005 U
2,4,6-Trichlorophenol	--	0.005 U	--	0.005 U	--	--	0.005 U
2,3,4,6-Tetrachlorophenol	--	0.005 U	--	0.005 U	--	--	0.005 U
Pentachlorophenol	--	0.01 U	--	0.01 U	--	--	0.01 U
3,4,5-Trichloroguaiacol	--	0.005 U	--	0.005 U	--	--	0.005 U

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category	2007 Hi-Vol Waters LGP-02	2007 Hi-Vol Waters LGP-03	2007 Hi-Vol Waters LGP-04				
Sample Location	LGP2-02-SW-A-PUF_N/A-070607	LGP2-03-070621	LGP2-03-SW-A FILTER-070301	LGP2-03-SW-A-070301	LGP2-03-SW-A-FILTER-070607	LGP2-03-SW-A-PUF_N/A-070607	LGP2-04-070621
Sample Identification	6/7/2007	6/21/2007	3/1/2007	3/1/2007	6/7/2007	6/7/2007	6/21/2007
Sample Date	W	W	W	W	W	W	W
Sample Matrix							
3,4,6-Trichloroguaiacol	--	0.005 U	--	0.005 U	--	--	0.005 U
4,5,6-Trichloroguaiacol	--	0.005 U	--	0.005 U	--	--	0.005 U
Tetrachloroguaiacol	--	0.01 U	--	0.01 U	--	--	0.01 U
3,4,5-Trichlorocatechol	--	0.01 U	--	0.01 U	--	--	0.01 U
3,4,6-Trichlorocatechol	--	0.01 U	--	0.01 U	--	--	0.01 U
Tetrachlorocatechol	--	0.01 U	--	0.01 U	--	--	0.01 U
Trichlorosyringol	--	0.005 U	--	0.005 U	--	--	0.005 U
Chlorophenols toxic unit sum							
Retene (µg/L)							
Retene	--	1 U	--	0.05 U	--	--	1 U
beta-Sitosterol (µg/L)							
beta-Sitosterol	--	0.35 J	--	0.42 J	--	--	0.21 J
VOCs (µg/L)							
Chloroform	--	0.5 U	--	0.5 U	--	--	0.5 U

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category Sample Location Sample Identification Sample Date Sample Matrix	2007 Hi-Vol Waters LGP-04 LGP2-04-SW-A FILTER-070228 2/28/2007 W	2007 Hi-Vol Waters LGP-04 LGP2-04-SW-A-070302 2/28/2007 W	2007 Hi-Vol Waters LGP-04 LGP2-04-SW-A-FILTER-070607 6/7/2007 W	2007 Hi-Vol Waters LGP-04 LGP2-04-SW-A-PUF_N/A-070607 6/7/2007 W	2007 Hi-Vol Waters LGP-05 LGP2-05-070621 6/21/2007 W	2007 Hi-Vol Waters LGP-05 LGP2-05-SW-A FILTER-070228 2/28/2007 W	2007 Hi-Vol Waters LGP-05 LGP2-05-SW-A-070302 2/28/2007 W
Conventional (mg/L)							
Dissolved organic carbon	--	2.1	--	--	2.1	--	2.6
Total organic carbon	--	2.7	--	--	2.3	--	3.0
Total suspended solids	--	5	--	--	5 U	--	5 U
Dioxin/Furans (pg/L)							
2,3,7,8-TCDD	0.00167 U	0.00224 U	0.00581 U	0.00184 U	--	0.00167 U	0.0016 U
1,2,3,7,8-PeCDD	0.00234 U	0.00644 U	0.00743 U	0.00406 U	--	0.00246 U	0.00926 U
1,2,3,4,7,8-HxCDD	0.003 U	0.00411 U	0.0125 U	0.00622 U	--	0.00398 U	0.00261 U
1,2,3,6,7,8-HxCDD	0.00625 U	0.00429 U	0.0293 J	0.00633 U	--	0.00396 U	0.00257 U
1,2,3,7,8,9-HxCDD	0.00303 U	0.00417 U	0.0179 J	0.00687 U	--	0.00394 U	0.00263 U
1,2,3,4,6,7,8-HpCDD	0.131	0.015 J	0.798	0.00731 U	--	0.0788	0.0106 J
OCDD	0.952	0.0741 J	5.47	0.0503 J	--	0.729	0.0643 J
2,3,7,8-TCDF	0.00275 J	0.00256 J	0.00731 J	0.00184 U	--	0.00174 U	0.00117 U
1,2,3,7,8-PeCDF	0.00366 U	0.00274 U	0.0125 U	0.00323 U	--	0.00555 U	0.00172 U
2,3,4,7,8-PeCDF	0.00302 U	0.00625 U	0.0125 U	0.00298 U	--	0.00493 U	0.00159 U
1,2,3,4,7,8-HxCDF	0.00625 U	0.00625 U	0.0125 U	0.00259 U	--	0.00122 U	0.000542 U
1,2,3,6,7,8-HxCDF	0.00625 U	0.00625 U	0.0125 U	0.00245 U	--	0.00114 U	0.000505 U
2,3,4,6,7,8-HxCDF	0.00098 U	0.00625 U	0.0125 U	0.00288 U	--	0.00131 U	0.00625 U
1,2,3,7,8,9-HxCDF	0.00118 U	0.00188 U	0.00155 U	0.0036 U	--	0.00151 U	0.000671 U
1,2,3,4,6,7,8-HpCDF	0.0188 J	0.00779 J	0.102 J	0.00304 U	--	0.011 J	0.00625 U
1,2,3,4,7,8,9-HpCDF	0.00253 U	0.00198 U	0.00564 U	0.00456 U	--	0.00225 U	0.00383 U
OCDF	0.0422 J	0.0162 J	0.181 J	0.0204 U	--	0.0195 J	0.00849 U
Total Dioxin/Furan	1.15	0.116	6.61	0.0503	--	0.838	0.0749
Total Dioxin/Furan TEQ 1998 (Bird)	0.00317	0.00266	0.0118	0.00000503	--	0.000264	0.000017
Total Dioxin/Furan TEQ 1998 (Fish)	0.000556	0.00023	0.00322	0.00000503	--	0.000264	0.000017
Total Dioxin/Furan TEQ 1998 (Mammal)	0.00187	0.000493	0.015	0.00000503	--	0.000973	0.000112
Total Dioxin/Furan TEQ (Bird)	0.00317	0.00266	0.0118	0.00000503	--	0.000264	0.000017
Total Dioxin/Furan TEQ (Fish)	0.000556	0.00023	0.00322	0.00000503	--	0.000264	0.000017
Total Dioxin/Furan TEQ (Mammal)	0.00207	0.000511	0.0161	0.0000151	--	0.00112	0.000125
Resin Acids (µg/L)							
3,4,5-Trichloroguaiacol	--	20 UJ	--	--	20 U	--	20 UJ
Tetrachloroguaiacol	--	20 U	--	--	20 U	--	20 U
Linoleic Acid	--	20 UJ	--	--	20 U	--	20 UJ
Oleic Acid/Linolenic Acid	--	20 U	--	--	20 U	--	20 U
Pimaric acid	--	20 U	--	--	20 U	--	20 U
Isopimaric acid	--	20 UJ	--	--	20 U	--	20 UJ
Dehydroabietic acid	--	20 U	--	--	20 U	--	20 U
Abietic acid	--	20 UJ	--	--	20 U	--	20 UJ
9,10-Dichlorostearic Acid	--	20 U	--	--	20 U	--	20 U
14-Chlorodehydroabietic acid	--	20 U	--	--	20 U	--	20 U
12-Chlorodehydroabietic acid	--	20 U	--	--	20 U	--	20 U
Dichlorodehydroabietic acid	--	20 U	--	--	20 U	--	20 U
Phenols (µg/L)							
2,4,5-Trichlorophenol	--	0.005 U	--	--	0.005 U	--	0.005 U
2,4,6-Trichlorophenol	--	0.005 U	--	--	0.005 U	--	0.005 U
2,3,4,6-Tetrachlorophenol	--	0.005 U	--	--	0.005 U	--	0.005 U
Pentachlorophenol	--	0.01 U	--	--	0.01 U	--	0.01 U
3,4,5-Trichloroguaiacol	--	0.005 U	--	--	0.005 U	--	0.005 U

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category	2007 Hi-Vol Waters LGP-04	2007 Hi-Vol Waters LGP-04	2007 Hi-Vol Waters LGP-04	2007 Hi-Vol Waters LGP-04	2007 Hi-Vol Waters LGP-05	2007 Hi-Vol Waters LGP-05	2007 Hi-Vol Waters LGP-05
Sample Location	LGP2-04-SW-A FILTER-070228	LGP2-04-SW-A-070302	LGP2-04-SW-A-FILTER-070607	LGP2-04-SW-A-PUF_N/A-070607	LGP2-05-070621	LGP2-05-SW-A FILTER-070228	LGP2-05-SW-A-070302
Sample Identification	2/28/2007	2/28/2007	6/7/2007	6/7/2007	6/21/2007	2/28/2007	2/28/2007
Sample Date	W	W	W	W	W	W	W
Sample Matrix							
3,4,6-Trichloroguaiacol	--	0.005 U	--	--	0.005 U	--	0.005 U
4,5,6-Trichloroguaiacol	--	0.005 U	--	--	0.005 U	--	0.005 U
Tetrachloroguaiacol	--	0.01 U	--	--	0.01 U	--	0.01 U
3,4,5-Trichlorocatechol	--	0.01 U	--	--	0.01 U	--	0.01 U
3,4,6-Trichlorocatechol	--	0.01 U	--	--	0.01 U	--	0.01 U
Tetrachlorocatechol	--	0.01 U	--	--	0.01 U	--	0.01 U
Trichlorosyringol	--	0.005 U	--	--	0.005 U	--	0.005 U
Chlorophenols toxic unit sum							
Retene (µg/L)							
Retene	--	0.053 U	--	--	1 U	--	0.05 U
beta-Sitosterol (µg/L)							
beta-Sitosterol	--	0.40 J	--	--	0.19 J	--	0.32 J
VOCs (µg/L)							
Chloroform	--	0.5 U	--	--	0.5 U	--	0.5 U

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category	2007 Hi-Vol Waters LGP-05	2007 Hi-Vol Waters LGP-05	2007 Hi-Vol Waters LGP-EFF LGP2-EFF-070621	2007 Hi-Vol Waters LGP-EFF LGP2-EFF-AQ-A FILTER-070302	2007 Hi-Vol Waters LGP-EFF LGP2-EFF-AQ-A-070302	2007 Hi-Vol Waters LGP-EFF LGP2-EFF-AQ-A-FILTER-070606
Sample Location	LGP2-05-SW-A-FILTER-070607	LGP2-05-SW-A-PUF_N/A-070607				
Sample Identification						
Sample Date	6/7/2007	6/7/2007				
Sample Matrix	W	W				
Conventional (mg/L)						
Dissolved organic carbon	--	--	97.6	--	111	--
Total organic carbon	--	--	112	--	143	--
Total suspended solids	--	--	43	--	60	--
Dioxin/Furans (pg/L)						
2,3,7,8-TCDD	0.00301 U	0.00386 U	--	0.00498 J	0.0037 U	0.0148 J
1,2,3,7,8-PeCDD	0.00579 U	0.00304 U	--	0.00625 U	0.00294 U	0.0125 U
1,2,3,4,7,8-HxCDD	0.00388 U	0.00823 U	--	0.00689 J	0.0039 U	0.0125 U
1,2,3,6,7,8-HxCDD	0.0125 U	0.00829 U	--	0.00625 U	0.00625 U	0.0125 U
1,2,3,7,8,9-HxCDD	0.0042 U	0.00922 U	--	0.007 J	0.00625 U	0.0125 U
1,2,3,4,6,7,8-HpCDD	0.133	0.00625 U	--	0.0833	0.0153 J	0.107 J
OCDD	0.993	0.0452 J	--	0.494	0.0461 J	0.743
2,3,7,8-TCDF	0.00276 U	0.00187 U	--	0.0448	0.0161	0.108
1,2,3,7,8-PeCDF	0.00228 U	0.00736 U	--	0.00848 J	0.00625 U	0.0125 U
2,3,4,7,8-PeCDF	0.00198 U	0.0067 U	--	0.0161 J	0.00625 U	0.013 J
1,2,3,4,7,8-HxCDF	0.0125 U	0.00146 U	--	0.00895 J	0.00129 U	0.0125 U
1,2,3,6,7,8-HxCDF	0.0125 U	0.00141 U	--	0.00625 U	0.00127 U	0.00131 U
2,3,4,6,7,8-HxCDF	0.00188 U	0.00154 U	--	0.00973 J	0.00138 U	0.00144 U
1,2,3,7,8,9-HxCDF	0.00243 U	0.0021 U	--	0.00625 U	0.00158 U	0.00168 U
1,2,3,4,6,7,8-HpCDF	0.0276 J	0.00275 U	--	0.0186 J	0.00625 U	0.0147 J
1,2,3,4,7,8,9-HpCDF	0.00297 U	0.00421 U	--	0.00209 U	0.00242 U	0.00249 U
OCDF	0.068 J	0.0248 U	--	0.017 J	0.0101 U	0.0309 J
Total Dioxin/Furan	1.22	0.0452	--	0.72	0.0775	1.03
Total Dioxin/Furan TEQ 1998 (Bird)	0.000515	0.00000452	--	0.07	0.0161	0.136
Total Dioxin/Furan TEQ 1998 (Fish)	0.000515	0.00000452	--	0.0214	0.000825	0.027
Total Dioxin/Furan TEQ 1998 (Mammal)	0.00171	0.00000452	--	0.0223	0.00177	0.0334
Total Dioxin/Furan TEQ (Bird)	0.000515	0.00000452	--	0.07	0.0161	0.136
Total Dioxin/Furan TEQ (Fish)	0.000515	0.00000452	--	0.0214	0.000825	0.027
Total Dioxin/Furan TEQ (Mammal)	0.00192	0.0000136	--	0.019	0.00178	0.0309
Resin Acids (µg/L)						
3,4,5-Trichloroguaiacol	--	--	20 U	--	20 UJ	--
Tetrachloroguaiacol	--	--	20 U	--	20 U	--
Linoleic Acid	--	--	54 J	--	59 J	--
Oleic Acid/Linolenic Acid	--	--	74 J	--	23	--
Pimaric acid	--	--	4.2 J	--	20 U	--
Isopimaric acid	--	--	13 J	--	20 UJ	--
Dehydroabietic acid	--	--	9.3 J	--	13 J	--
Abietic acid	--	--	11 J	--	20 U	--
9,10-Dichlorostearic Acid	--	--	20 U	--	20 U	--
14-Chlorodehydroabietic acid	--	--	20 U	--	20 U	--
12-Chlorodehydroabietic acid	--	--	20 U	--	20 U	--
Dichlorodehydroabietic acid	--	--	20 U	--	20 U	--
Phenols (µg/L)						
2,4,5-Trichlorophenol	--	--	0.005 U	--	0.005 U	--
2,4,6-Trichlorophenol	--	--	0.21	--	0.15	--
2,3,4,6-Tetrachlorophenol	--	--	0.005 U	--	0.005 U	--
Pentachlorophenol	--	--	0.01 U	--	0.01 U	--
3,4,5-Trichloroguaiacol	--	--	0.031	--	0.02 J	--

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category	2007 Hi-Vol Waters LGP-05	2007 Hi-Vol Waters LGP-05	2007 Hi-Vol Waters LGP-EFF	2007 Hi-Vol Waters LGP-EFF	2007 Hi-Vol Waters LGP-EFF	2007 Hi-Vol Waters LGP-EFF
Sample Location	LGP2-05-SW-A-FILTER-070607	LGP2-05-SW-A-PUF_N/A-070607	LGP2-EFF-070621	LGP2-EFF-AQ-A FILTER-070302	LGP2-EFF-AQ-A-070302	LGP2-EFF-AQ-A-FILTER-070606
Sample Identification						
Sample Date	6/7/2007	6/7/2007	6/21/2007	3/2/2007	3/2/2007	6/6/2007
Sample Matrix	W	W	W	W	W	W
3,4,6-Trichloroguaiacol	--	--	0.005 U	--	0.016	--
4,5,6-Trichloroguaiacol	--	--	0.052	--	0.093	--
Tetrachloroguaiacol	--	--	0.012	--	0.011	--
3,4,5-Trichlorocatechol	--	--	0.01 U	--	0.01 U	--
3,4,6-Trichlorocatechol	--	--	0.01 U	--	0.01 U	--
Tetrachlorocatechol	--	--	0.01 U	--	0.01 U	--
Trichlorosyringol	--	--	0.005 U	--	0.005 U	--
Chlorophenols toxic unit sum			0.305		0.29	
Retene (µg/L)						
Retene	--	--	1 U	--	0.052 U	--
beta-Sitosterol (µg/L)						
beta-Sitosterol	--	--	11 J	--	7.8 J	--
VOCs (µg/L)						
Chloroform	--	--	1.3	--	1.0	--

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category Sample Location Sample Identification Sample Date Sample Matrix	2007 Hi-Vol Waters LGP-EFF LGP2-EFF-AQ-A-PUF_N/A-070606 6/6/2007 W	2007 Hi-Vol Waters LGP-EFF LGP2-EFF-AQ-D-070302 3/2/2007 WG	2007 Hi-Vol Waters SR-REF LGP2-SR-REF-070621 6/21/2007 W	2007 Hi-Vol Waters SR-REF SR-REF-SW-A FILTER-070227 2/27/2007 W	2007 Hi-Vol Waters SR-REF SR-REF-SW-A-070227 2/27/2007 W	2007 Hi-Vol Waters SR-REF SR-REF-SW-A-FILTER-070606 6/6/2007 W	2007 Hi-Vol Waters SR-REF SR-REF-SW-A-PUF_N/A-070606 6/6/2007 W
Conventional (mg/L)							
Dissolved organic carbon	--	108	2.1	--	2.4	--	--
Total organic carbon	--	142	2.2	--	2.3	--	--
Total suspended solids	--	58	5 U	--	5 UJ	--	--
Dioxin/Furans (pg/L)							
2,3,7,8-TCDD	0.00217 U	--	--	0.00121 U	0.00163 U	0.00404 U	0.00363 U
1,2,3,7,8-PeCDD	0.00334 U	--	--	0.0018 U	0.00936 U	0.00383 U	0.00277 U
1,2,3,4,7,8-HxCDD	0.00569 U	--	--	0.00436 U	0.00272 U	0.0125 U	0.00456 U
1,2,3,6,7,8-HxCDD	0.00569 U	--	--	0.00405 U	0.00272 U	0.0125 U	0.00481 U
1,2,3,7,8,9-HxCDD	0.00635 U	--	--	0.00427 U	0.00278 U	0.0125 U	0.00551 U
1,2,3,4,6,7,8-HpCDD	0.0161 J	--	--	0.0597 J	0.0129 J	0.129	0.0055 U
OCDD	0.0303 J	--	--	0.428	0.0632 J	1.04	0.0381 J
2,3,7,8-TCDF	0.0102 J	--	--	0.00359 U	0.00133 U	0.0025 U	0.00167 U
1,2,3,7,8-PeCDF	0.00455 U	--	--	0.00607 U	0.00251 U	0.0019 U	0.00244 U
2,3,4,7,8-PeCDF	0.00422 U	--	--	0.00562 U	0.00235 U	0.00173 U	0.00209 U
1,2,3,4,7,8-HxCDF	0.00188 U	--	--	0.000643 U	0.0014 U	0.00163 U	0.00161 U
1,2,3,6,7,8-HxCDF	0.00188 U	--	--	0.000621 U	0.00133 U	0.00155 U	0.0016 U
2,3,4,6,7,8-HxCDF	0.00198 U	--	--	0.000702 U	0.00143 U	0.00162 U	0.00173 U
1,2,3,7,8,9-HxCDF	0.00271 U	--	--	0.00086 U	0.00162 U	0.00195 U	0.00223 U
1,2,3,4,6,7,8-HpCDF	0.00281 U	--	--	0.00812 J	0.00625 U	0.0263 J	0.00242 U
1,2,3,4,7,8,9-HpCDF	0.00423 U	--	--	0.00189 U	0.00236 U	0.00344 U	0.00355 U
OCDF	0.0197 U	--	--	0.0231 J	0.0125 U	0.0696 J	0.0201 U
Total Dioxin/Furan	0.0566	--	--	0.519	0.0761	1.26	0.0381
Total Dioxin/Furan TEQ 1998 (Bird)	0.0102	--	--	0.000186	0.0000192	0.000503	0.00000381
Total Dioxin/Furan TEQ 1998 (Fish)	0.000529	--	--	0.000186	0.0000192	0.000503	0.00000381
Total Dioxin/Furan TEQ 1998 (Mammal)	0.00118	--	--	0.000723	0.000135	0.00166	0.00000381
Total Dioxin/Furan TEQ (Bird)	0.0102	--	--	0.000186	0.0000192	0.000503	0.00000381
Total Dioxin/Furan TEQ (Fish)	0.000529	--	--	0.000186	0.0000192	0.000503	0.00000381
Total Dioxin/Furan TEQ (Mammal)	0.00119	--	--	0.000814	0.000148	0.00189	0.0000114
Resin Acids (µg/L)							
3,4,5-Trichloroguaiacol	--	20 UJ	20 U	--	20 UJ	--	--
Tetrachloroguaiacol	--	20 U	20 U	--	20 U	--	--
Linoleic Acid	--	17 J	13 J	--	20 UJ	--	--
Oleic Acid/Linolenic Acid	--	25	20 U	--	20 U	--	--
Pimaric acid	--	20 U	20 U	--	20 U	--	--
Isopimaric acid	--	20 UJ	20 U	--	20 UJ	--	--
Dehydroabietic acid	--	20 U	20 U	--	20 U	--	--
Abietic acid	--	20 UJ	20 U	--	20 UJ	--	--
9,10-Dichlorostearic Acid	--	20 U	20 U	--	20 U	--	--
14-Chlorodehydroabietic acid	--	20 U	20 U	--	20 U	--	--
12-Chlorodehydroabietic acid	--	20 U	20 U	--	20 U	--	--
Dichlorodehydroabietic acid	--	20 U	20 U	--	20 U	--	--
Phenols (µg/L)							
2,4,5-Trichlorophenol	--	0.005 U	0.005 U	--	0.005 U	--	--
2,4,6-Trichlorophenol	--	0.13	0.005 U	--	0.005 U	--	--
2,3,4,6-Tetrachlorophenol	--	0.005 U	0.005 U	--	0.005 U	--	--
Pentachlorophenol	--	0.01 U	0.01 U	--	0.01 U	--	--
3,4,5-Trichloroguaiacol	--	0.019	0.005 U	--	0.005 U	--	--

Table 2
Summary of Analytical Results and Comparison with Benchmark Criteria – June 2007 Sampling Episode

Sampling Category	2007 Hi-Vol Waters LGP-EFF	2007 Hi-Vol Waters LGP-EFF	2007 Hi-Vol Waters SR-REF				
Sample Location	LGP2-EFF-AQ-A-PUF_N/A-070606	LGP2-EFF-AQ-D-070302	LGP2-SR-REF-070621	SR-REF-SW-A FILTER-070227	SR-REF-SW-A-070227	SR-REF-SW-A-FILTER-070606	SR-REF-SW-A-PUF_N/A-070606
Sample Identification							
Sample Date	6/6/2007	3/2/2007	6/21/2007	2/27/2007	2/27/2007	6/6/2007	6/6/2007
Sample Matrix	W	WG	W	W	W	W	W
3,4,6-Trichloroguaiacol	--	0.017	0.005 U	--	0.005 U	--	--
4,5,6-Trichloroguaiacol	--	0.091	0.005 U	--	0.005 U	--	--
Tetrachloroguaiacol	--	0.012	0.01 U	--	0.01 U	--	--
3,4,5-Trichlorocatechol	--	0.034	0.01 U	--	0.01 U	--	--
3,4,6-Trichlorocatechol	--	0.01 U	0.01 U	--	0.01 U	--	--
Tetrachlorocatechol	--	0.01 U	0.01 U	--	0.01 U	--	--
Trichlorosyringol	--	0.005 U	0.005 U	--	0.005 U	--	--
Chlorophenols toxic unit sum		0.303					
Retene (µg/L)							
Retene	--	0.054 U	1 U	--	0.05 UJ	--	--
beta-Sitosterol (µg/L)							
beta-Sitosterol	--	4.5 J	0.33 J	--	0.86 J	--	--
VOCs (µg/L)							
Chloroform	--	1.0	0.5 U	--	0.5 U	--	--

Notes:

Denotes reporting limit above toxicity benchmark

Denotes result above toxicity benchmark

Bold = Detected

U = The compound was analyzed for, but was not detected ("Non-detect") at or above the method reporting limit/method detection limit.

J = The result is an estimated concentration that is less than the method reporting limit but greater than or equal to the method detection limit.

CR- REF = Clearwater Reference station

SR-REF = Snake River Reference station

LGP = Lower Granite Pool

Dioxin/Furan TEQ is per section J, of permit ID0001163.

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	Sample Location	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters LGP-01	2007 Hi-Vol Waters LGP-01	2007 Hi-Vol Waters LGP-01
Sample Identification	Sample Date	CR-REF-SW-A FILTER-070226 2/26/2007 W	CR-REF-SW-A-070226 2/26/2007 W	CR-REF-SW-A-FILTER-070606 6/6/2007 W	CR-REF-SW-A-PUF_N/A-070606 6/6/2007 W	LGP2-CR-REF-070621 6/21/2007 W	LGP2-01-A-070621 6/21/2007 W	LGP2-01-B-070621 6/21/2007 W		
Sample Matrix	Units	Toxicity Benchmark								
Conventionals (mg/L)										
Dissolved organic carbon	mg/L		--	3.0	--	--	1.7	2.4	0.3 J	
Total organic carbon	mg/L		--	3.0	--	--	1.8	2.3	0.12 J	
Total suspended solids	mg/L		--	5 UJ	--	--	5 U	5 U	5 U	
Dioxin/Furans (pg/L)										
2,3,7,8-TCDD	pg/L	0.06	0.00114 U	0.00162 U	0.00472 U	0.00257 U	--	--	--	
1,2,3,7,8-PeCDD	pg/L		0.00224 U	0.00907 U	0.00496 U	0.00711 U	--	--	--	
1,2,3,4,7,8-HxCDD	pg/L		0.00391 U	0.00354 U	0.00654 U	0.00781 U	--	--	--	
1,2,3,6,7,8-HxCDD	pg/L		0.00625 U	0.00357 U	0.0125 U	0.0078 U	--	--	--	
1,2,3,7,8,9-HxCDD	pg/L		0.00625 U	0.00368 U	0.00707 U	0.00901 U	--	--	--	
1,2,3,4,6,7,8-HpCDD	pg/L		0.0829	0.016 J	0.305	0.0083 U	--	--	--	
OCDD	pg/L		0.635	0.0834 J	1.94	0.0426 J	--	--	--	
2,3,7,8-TCDF	pg/L	0.20	0.00185 U	0.00174 J	0.00254 U	0.00449 U	--	--	--	
1,2,3,7,8-PeCDF	pg/L		0.00624 U	0.00302 U	0.00386 U	0.00455 U	--	--	--	
2,3,4,7,8-PeCDF	pg/L		0.00543 U	0.00284 U	0.00328 U	0.00407 U	--	--	--	
1,2,3,4,7,8-HxCDF	pg/L		0.00625 U	0.00625 U	0.0125 U	0.00234 U	--	--	--	
1,2,3,6,7,8-HxCDF	pg/L		0.00625 U	0.00625 U	0.00157 U	0.00224 U	--	--	--	
2,3,4,6,7,8-HxCDF	pg/L		0.00625 U	0.00625 U	0.00179 U	0.00249 U	--	--	--	
1,2,3,7,8,9-HxCDF	pg/L		0.000827 U	0.00113 U	0.00216 U	0.00341 U	--	--	--	
1,2,3,4,6,7,8-HpCDF	pg/L		0.0173 J	0.00625 U	0.403 J	0.00371 U	--	--	--	
1,2,3,4,7,8,9-HpCDF	pg/L		0.00163 U	0.00321 U	0.00395 U	0.00563 U	--	--	--	
OCDF	pg/L		0.0404 J	0.0125 U	0.0709 J	0.013 U	--	--	--	
Total Dioxin/Furan	pg/L		0.776	0.101	2.36	0.0426	--	--	--	
Total Dioxin/Furan TEQ 1998 (Bird)	pg/L		0.000323	0.00176	0.000909	0.00000426	--	--	--	
Total Dioxin/Furan TEQ 1998 (Fish)	pg/L		0.000323	0.000111	0.000909	0.00000426	--	--	--	
Total Dioxin/Furan TEQ 1998 (Mammal)	pg/L		0.00107	0.000342	0.00365	0.00000426	--	--	--	
Total Dioxin/Furan TEQ (Bird)	pg/L		0.000323	0.00176	0.000909	0.00000426	--	--	--	
Total Dioxin/Furan TEQ (Fish)	pg/L		0.000323	0.000111	0.000909	0.00000426	--	--	--	
Total Dioxin/Furan TEQ (Mammal)	pg/L		0.0012	0.000359	0.00406	0.0000128	--	--	--	
Resin Acids (µg/L)										
2.2 µg/L										
Linoleic Acid	µg/L		--	20 UJ	--	--	20 U	4.0 J	20 U	
Oleic Acid/Linolenic Acid	µg/L		--	20 UJ	--	--	20 U	20 U	20 U	
Pimaric acid	µg/L		--	20 UJ	--	--	20 U	20 U	20 U	
Isopimaric acid	µg/L		--	20 UJ	--	--	20 U	20 U	20 U	
Dehydroabietic acid	µg/L		--	20 UJ	--	--	20 U	20 U	20 U	
Abietic acid	µg/L		--	20 UJ	--	--	20 U	20 U	20 U	
9,10-Dichlorostearic Acid	µg/L		--	20 UJ	--	--	20 U	20 U	20 U	
14-Chlorodehydroabietic acid	µg/L		--	20 UJ	--	--	20 U	20 U	20 U	
12-Chlorodehydroabietic acid	µg/L		--	20 UJ	--	--	20 U	20 U	20 U	
Dichlorodehydroabietic acid	µg/L		--	20 UJ	--	--	20 U	20 U	20 U	
Phenols (µg/L)										
(µg/L)										
2,4,5-Trichlorophenol	µg/L	2.6	--	0.005 U	--	--	0.005 U	0.005 U	0.005 U	
2,4,6-Trichlorophenol	µg/L	7.3	--	0.005 U	--	--	0.005 U	0.005 U	0.005 U	
2,3,4,6-Tetrachlorophenol	µg/L	3.3	--	0.005 U	--	--	0.005 U	0.005 U	0.005 U	
Pentachlorophenol	µg/L	0.18	--	0.01 U	--	--	0.01 U	0.01 U	0.01 U	
3,4,5-Trichloroguaiacol	µg/L	7.5	--	0.005 U	--	--	0.005 U	0.005 U	0.005 U	
3,4,6-Trichloroguaiacol	µg/L	2.6	--	0.005 U	--	--	0.005 U	0.005 U	0.005 U	
4,5,6-Trichloroguaiacol	µg/L	2.6	--	0.005 U	--	--	0.005 U	0.005 U	0.005 U	

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	Sample Location	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters CR-REF	2007 Hi-Vol Waters LGP-01	2007 Hi-Vol Waters LGP-01	2007 Hi-Vol Waters LGP-01
Sample Identification	Sample Date	CR-REF-SW-A FILTER-070226 2/26/2007 W	CR-REF-SW-A-070226 2/26/2007 W	CR-REF-SW-A-FILTER-070606 6/6/2007 W	CR-REF-SW-A-PUF_N/A-070606 6/6/2007 W	LGP2-CR-REF-070621 6/21/2007 W	LGP2-01-A-070621 6/21/2007 W	LGP2-01-B-070621 6/21/2007 W		
Sample Matrix	Units	Toxicity Benchmark								
Tetrachloroguaiacol	µg/L	10	--	0.01 U	--	--	0.01 U	0.01 U	0.01 U	0.01 U
3,4,5-Trichlorocatechol	µg/L	2.6	--	0.01 U	--	--	0.01 U	0.01 U	0.01 U	0.01 U
3,4,6-Trichlorocatechol	µg/L	2.6	--	0.01 U	--	--	0.01 U	0.01 U	0.01 U	0.01 U
Tetrachlorocatechol	µg/L	11.0	--	0.01 U	--	--	0.01 U	0.01 U	0.01 U	0.01 U
Trichlorosyringol	µg/L	2.6	--	0.005 U	--	--	0.005 U	0.005 U	0.005 U	0.005 U
Chlorophenols toxic unit sum										
Retene (µg/L)										
Retene	µg/L	3.2	--	0.05 UJ	--	--	1 U	1 U	1 U	1 U
beta-Sitosterol (µg/L)										
beta-Sitosterol	µg/L	2.5	--	0.54 UJ	--	--	0.53 UJ	0.55 J	0.54 UJ	
VOCs (µg/L)										
Chloroform	µg/L	12.4	--	0.5 U	--	--	0.5 U	0.5 U	2.5	

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters LGP-01 LGP2-01-D-070621 6/21/2007 W	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A FILTER-070302 3/2/2007 W	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-070302 3/2/2007 W	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-FILTER-070608 6/8/2007 W	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-PUF_N/A-070608 6/8/2007 W	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D FILTER-070302 3/2/2007 W	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D-070302 3/2/2007 W
Conventional (mg/L)							
Dissolved organic carbon	2.1	--	2.6	--	--	--	2.4
Total organic carbon	2.4	--	2.8	--	--	--	2.8
Total suspended solids	5 U	--	5 U	--	--	--	5 U
Dioxin/Furans (pg/L)							
2,3,7,8-TCDD	--	0.00143 U	0.00171 U	0.00315 U	0.00172 U	0.00165 U	0.00108 U
1,2,3,7,8-PeCDD	--	0.00699 J	0.00362 U	0.00864 U	0.00406 U	0.00672 U	0.0162 U
1,2,3,4,7,8-HxCDD	--	0.0148 J	0.00474 U	0.00696 U	0.00862 U	0.00507 U	0.00214 U
1,2,3,6,7,8-HxCDD	--	0.0377 J	0.00486 U	0.0125 U	0.00878 U	0.00625 U	0.00211 U
1,2,3,7,8,9-HxCDD	--	0.0287 J	0.0049 U	0.00794 U	0.00953 U	0.00625 U	0.00218 U
1,2,3,4,6,7,8-HpCDD	--	0.33	0.00853 J	0.147	0.011 U	0.103	0.0142 J
OCDD	--	1.04	0.0676 J	1.02	0.0597 J	1.09	0.0656 J
2,3,7,8-TCDF	--	0.00412 UJ	0.00183 U	0.00462 J	0.00147 U	0.003 J	0.00172 J
1,2,3,7,8-PeCDF	--	0.0113 J	0.00162 U	0.00428 U	0.00325 U	0.00625 U	0.00216 U
2,3,4,7,8-PeCDF	--	0.0232 J	0.00143 U	0.00384 U	0.00281 U	0.00223 U	0.00206 U
1,2,3,4,7,8-HxCDF	--	0.0374 J	0.00625 U	0.00188 U	0.00625 U	0.00625 U	0.000954 U
1,2,3,6,7,8-HxCDF	--	0.0497 J	0.00625 U	0.00186 U	0.00124 U	0.00625 U	0.00625 U
2,3,4,6,7,8-HxCDF	--	0.0725	0.0013 U	0.0125 U	0.00138 U	0.00625 U	0.00625 U
1,2,3,7,8,9-HxCDF	--	0.0249 J	0.00625 U	0.00262 U	0.00723 J	0.00113 U	0.00122 U
1,2,3,4,6,7,8-HpCDF	--	0.182	0.0097 J	0.0304 J	0.00625 U	0.0148 J	0.00625 U
1,2,3,4,7,8,9-HpCDF	--	0.0668	0.00625 U	0.00343 U	0.00202 U	0.00199 U	0.00132 U
OCDF	--	0.33 J	0.184	0.0889 J	0.0065 U	0.0338 J	0.0125 U
Total Dioxin/Furan	--	2.26	0.27	1.29	0.0669	1.24	0.0815
Total Dioxin/Furan TEQ 1998 (Bird)	--	0.0608	0.000131	0.00518	0.000729	0.00336	0.00174
Total Dioxin/Furan TEQ 1998 (Fish)	--	0.0488	0.000131	0.000793	0.000729	0.000513	0.000107
Total Dioxin/Furan TEQ 1998 (Mammal)	--	0.0521	0.000207	0.00235	0.000729	0.00159	0.000321
Total Dioxin/Furan TEQ (Bird)	--	0.0608	0.000131	0.00518	0.000729	0.00336	0.00174
Total Dioxin/Furan TEQ (Fish)	--	0.0488	0.000131	0.000793	0.000729	0.000513	0.000107
Total Dioxin/Furan TEQ (Mammal)	--	0.0475	0.000258	0.00257	0.000741	0.00182	0.000334
Resin Acids (µg/L)							
Linoleic Acid	20 U	--	20 UJ	--	--	--	20 UJ
Oleic Acid/Linolenic Acid	20 U	--	20 U	--	--	--	20 U
Pimaric acid	20 U	--	20 U	--	--	--	20 U
Isopimaric acid	20 U	--	20 UJ	--	--	--	20 UJ
Dehydroabietic acid	20 U	--	20 U	--	--	--	20 U
Abietic acid	20 U	--	20 UJ	--	--	--	20 UJ
9,10-Dichlorostearic Acid	20 U	--	20 U	--	--	--	20 U
14-Chlorodehydroabietic acid	20 U	--	20 U	--	--	--	20 U
12-Chlorodehydroabietic acid	20 U	--	20 U	--	--	--	20 U
Dichlorodehydroabietic acid	20 U	--	20 U	--	--	--	20 U
Phenols (µg/L)							
2,4,5-Trichlorophenol	0.005 U	--	0.005 U	--	--	--	0.005 U
2,4,6-Trichlorophenol	0.005 U	--	0.005 U	--	--	--	0.005 U
2,3,4,6-Tetrachlorophenol	0.005 U	--	0.005 U	--	--	--	0.005 U
Pentachlorophenol	0.01 U	--	0.01 U	--	--	--	0.01 U
3,4,5-Trichloroguaiacol	0.005 U	--	0.005 U	--	--	--	0.005 U
3,4,6-Trichloroguaiacol	0.005 U	--	0.005 U	--	--	--	0.005 U
4,5,6-Trichloroguaiacol	0.005 U	--	0.005 U	--	--	--	0.005 U

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters LGP-01 LGP2-01-D-070621	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A FILTER-070302	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-070302	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-FILTER-070608	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-A-PUF_N/A-070608	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D FILTER-070302	2007 Hi-Vol Waters LGP-01 LGP2-01-SW-D-070302
Sample Location	LGP-01 6/21/2007 W	LGP-01 3/2/2007 W	LGP-01 3/2/2007 W	LGP-01 6/8/2007 W	LGP-01 6/8/2007 W	LGP-01 3/2/2007 W	LGP-01 3/2/2007 W
Tetrachloroguaiacol	0.01 U	--	0.01 U	--	--	--	0.01 U
3,4,5-Trichlorocatechol	0.01 U	--	0.01 U	--	--	--	0.01 U
3,4,6-Trichlorocatechol	0.01 U	--	0.01 U	--	--	--	0.01 U
Tetrachlorocatechol	0.01 U	--	0.01 U	--	--	--	0.01 U
Trichlorosyringol	0.005 U	--	0.005 U	--	--	--	0.005 U
Chlorophenols toxic unit sum							
Retene (µg/L)							
Retene	1 U	--	0.059 U	--	--	--	0.052 U
beta-Sitosterol (µg/L)							
beta-Sitosterol	0.37 J	--	0.29 J	--	--	--	0.5 J
VOCs (µg/L)							
Chloroform	0.5 U	--	0.5 U	--	--	--	0.5 U

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters LGP-01	2007 Hi-Vol Waters LGP-01	2007 Hi-Vol Waters LGP-06				
Sample Location	LGP2-01-SW-D-FILTER-070608	LGP2-01-SW-D-PUF_N/A-070608	LGP2-02-070621	LGP2-02-SW-A FILTER-070301	LGP2-02-SW-A-070301	LGP2-02-SW-A-FILTER-070607	LGP2-02-SW-A-PUF_N/A-070607
Sample Identification							
Sample Date	6/8/2007	6/8/2007	6/21/2007	3/1/2007	3/1/2007	6/7/2007	6/7/2007
Sample Matrix	W	W	W	W	W	W	W
Conventionals (mg/L)							
Dissolved organic carbon	--	--	2.2	--	2.4	--	--
Total organic carbon	--	--	2.3	--	2.7	--	--
Total suspended solids	--	--	7	--	5 U	--	--
Dioxin/Furans (pg/L)							
2,3,7,8-TCDD	0.00566 U	0.00178 U	--	0.00199 U	0.0007 U	0.00396 U	0.00225 U
1,2,3,7,8-PeCDD	0.00961 U	0.00469 U	--	0.00279 U	0.00826 U	0.00702 U	0.00585 U
1,2,3,4,7,8-HxCDD	0.00606 U	0.0142 U	--	0.00514 U	0.002 U	0.00682 U	0.00874 U
1,2,3,6,7,8-HxCDD	0.0132 J	0.0136 U	--	0.00625 U	0.00193 U	0.00704 U	0.0091 U
1,2,3,7,8,9-HxCDD	0.0125 U	0.0154 U	--	0.00528 U	0.0019 U	0.00785 U	0.00993 U
1,2,3,4,6,7,8-HpCDD	0.316	0.00842 U	--	0.106	0.0098 J	0.162	0.0313 U
OCDD	2.05	0.0223 J	--	0.732	0.0359 J	1.24	0.068 J
2,3,7,8-TCDF	0.00662 J	0.00214 U	--	0.00159 U	0.0024 J	0.00374 J	0.00274 U
1,2,3,7,8-PeCDF	0.0125 U	0.00371 U	--	0.00566 U	0.00256 U	0.00334 U	0.00519 U
2,3,4,7,8-PeCDF	0.0125 U	0.00338 U	--	0.00539 U	0.00625 U	0.00316 U	0.00447 U
1,2,3,4,7,8-HxCDF	0.0125 U	0.00198 U	--	0.000693 U	0.000695 U	0.0125 U	0.0033 U
1,2,3,6,7,8-HxCDF	0.0125 U	0.00198 U	--	0.000594 U	0.000634 U	0.0125 U	0.00311 U
2,3,4,6,7,8-HxCDF	0.0125 U	0.00211 U	--	0.000665 U	0.00625 U	0.00259 U	0.00365 U
1,2,3,7,8,9-HxCDF	0.00272 U	0.00295 U	--	0.000781 U	0.000925 U	0.00313 U	0.00479 U
1,2,3,4,6,7,8-HpCDF	0.0455 J	0.00397 U	--	0.0122 J	0.00625 U	0.0394 J	0.00342 U
1,2,3,4,7,8,9-HpCDF	0.00667 U	0.00608 U	--	0.00256 U	0.00266 U	0.00609 U	0.00505 U
OCDF	0.16 J	0.0127 U	--	0.0244 J	0.0068 U	0.0995 J	0.0153 U
Total Dioxin/Furan	2.59	0.0223	--	0.875	0.0481	1.54	0.068
Total Dioxin/Furan TEQ 1998 (Bird)	0.00774	0.00000223	--	0.000304	0.00241	0.00443	0.0000068
Total Dioxin/Furan TEQ 1998 (Fish)	0.00146	0.00000223	--	0.000304	0.000133	0.000877	0.0000068
Total Dioxin/Furan TEQ 1998 (Mammal)	0.00582	0.00000223	--	0.00126	0.000342	0.00252	0.0000068
Total Dioxin/Furan TEQ (Bird)	0.00774	0.00000223	--	0.000304	0.00241	0.00443	0.0000068
Total Dioxin/Furan TEQ (Fish)	0.00146	0.00000223	--	0.000304	0.000133	0.000877	0.0000068
Total Dioxin/Furan TEQ (Mammal)	0.00626	0.00000669	--	0.00141	0.000349	0.00279	0.0000204
Resin Acids (µg/L)							
Linoleic Acid	--	--	4.4 J	--	20 UJ	--	--
Oleic Acid/Linolenic Acid	--	--	20 U	--	20 U	--	--
Pimaric acid	--	--	20 U	--	20 U	--	--
Isopimaric acid	--	--	20 U	--	20 UJ	--	--
Dehydroabietic acid	--	--	20 U	--	20 U	--	--
Abietic acid	--	--	20 U	--	20 UJ	--	--
9,10-Dichlorostearic Acid	--	--	20 U	--	20 U	--	--
14-Chlorodehydroabietic acid	--	--	20 U	--	20 U	--	--
12-Chlorodehydroabietic acid	--	--	20 U	--	20 U	--	--
Dichlorodehydroabietic acid	--	--	20 U	--	20 U	--	--
Phenols (µg/L)							
2,4,5-Trichlorophenol	--	--	0.005 U	--	0.005 U	--	--
2,4,6-Trichlorophenol	--	--	0.005 U	--	0.005 U	--	--
2,3,4,6-Tetrachlorophenol	--	--	0.005 U	--	0.005 U	--	--
Pentachlorophenol	--	--	0.01 U	--	0.01 U	--	--
3,4,5-Trichloroguaiacol	--	--	0.005 U	--	0.005 U	--	--
3,4,6-Trichloroguaiacol	--	--	0.005 U	--	0.005 U	--	--
4,5,6-Trichloroguaiacol	--	--	0.005 U	--	0.005 U	--	--

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters LGP-01	2007 Hi-Vol Waters LGP-01	2007 Hi-Vol Waters LGP-06				
Sample Location	LGP2-01-SW-D-FILTER-070608	LGP2-01-SW-D-PUF_N/A-070608	LGP2-02-070621	LGP2-02-SW-A FILTER-070301	LGP2-02-SW-A-070301	LGP2-02-SW-A-FILTER-070607	LGP2-02-SW-A-PUF_N/A-070607
Sample Identification							
Sample Date	6/8/2007	6/8/2007	6/21/2007	3/1/2007	3/1/2007	6/7/2007	6/7/2007
Sample Matrix	W	W	W	W	W	W	W
Tetrachloroguaiacol	--	--	0.01 U	--	0.01 U	--	--
3,4,5-Trichlorocatechol	--	--	0.01 U	--	0.01 U	--	--
3,4,6-Trichlorocatechol	--	--	0.01 U	--	0.01 U	--	--
Tetrachlorocatechol	--	--	0.01 U	--	0.01 U	--	--
Trichlorosyringol	--	--	0.005 U	--	0.005 U	--	--
Chlorophenols toxic unit sum							
Retene (µg/L)							
Retene	--	--	1 U	--	0.054 U	--	--
beta-Sitosterol (µg/L)							
beta-Sitosterol	--	--	0.41 J	--	0.44 J	--	--
VOCs (µg/L)							
Chloroform	--	--	0.5 U	--	0.5 U	--	--

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters LGP-09 LGP2-03-070621 6/21/2007 W	2007 Hi-Vol Waters LGP-09 LGP2-03-SW-A FILTER-070301 3/1/2007 W	2007 Hi-Vol Waters LGP-09 LGP2-03-SW-A-070301 3/1/2007 W	2007 Hi-Vol Waters LGP-09 LGP2-03-SW-A-FILTER-070607 6/7/2007 W	2007 Hi-Vol Waters LGP-09 LGP2-03-SW-A-PUF_N/A-070607 6/7/2007 W	2007 Hi-Vol Waters LGP-11 LGP2-04-070621 6/21/2007 W	2007 Hi-Vol Waters LGP-11 LGP2-04-SW-A FILTER-070228 2/28/2007 W
Conventionals (mg/L)							
Dissolved organic carbon	2.3	--	2.2	--	--	2.2	--
Total organic carbon	2.5	--	2.4	--	--	2.3	--
Total suspended solids	5 U	--	5 U	--	--	5 U	--
Dioxin/Furans (pg/L)							
2,3,7,8-TCDD	--	0.00116 U	0.00258 U	0.00565 U	0.00371 U	--	0.00167 U
1,2,3,7,8-PeCDD	--	0.00111 U	0.0113 U	0.013 U	0.00254 U	--	0.00234 U
1,2,3,4,7,8-HxCDD	--	0.00342 U	0.00374 U	0.0106 U	0.00763 U	--	0.003 U
1,2,3,6,7,8-HxCDD	--	0.00339 U	0.00383 U	0.0173 J	0.00782 U	--	0.00625 U
1,2,3,7,8,9-HxCDD	--	0.00625 U	0.00389 U	0.0123 U	0.00842 U	--	0.00303 U
1,2,3,4,6,7,8-HpCDD	--	0.0546 J	0.0101 J	0.411	0.00778 U	--	0.131
OCDD	--	0.546	0.0477 J	2.36	0.0519 J	--	0.952
2,3,7,8-TCDF	--	0.00255 U	0.00167 U	0.00536 U	0.00242 U	--	0.00275 J
1,2,3,7,8-PeCDF	--	0.00409 U	0.00294 U	0.0107 U	0.00651 U	--	0.00366 U
2,3,4,7,8-PeCDF	--	0.00378 U	0.0028 U	0.0101 U	0.00576 U	--	0.00302 U
1,2,3,4,7,8-HxCDF	--	0.000811 U	0.000903 U	0.00224 U	0.00203 U	--	0.00625 U
1,2,3,6,7,8-HxCDF	--	0.000781 U	0.000806 U	0.0125 U	0.00192 U	--	0.00625 U
2,3,4,6,7,8-HxCDF	--	0.000875 U	0.000932 U	0.00222 U	0.00212 U	--	0.00098 U
1,2,3,7,8,9-HxCDF	--	0.00106 U	0.00111 U	0.00409 U	0.00277 U	--	0.00118 U
1,2,3,4,6,7,8-HpCDF	--	0.0124 J	0.00625 U	0.0428 J	0.00232 U	--	0.0188 J
1,2,3,4,7,8,9-HpCDF	--	0.0017 U	0.00285 U	0.0582 UJ	0.00351 U	--	0.00253 U
OCDF	--	0.0298 J	0.0137 U	0.925 UJ	0.0147 U	--	0.0422 J
Total Dioxin/Furan	--	0.643	0.0578	2.83	0.0519	--	1.15
Total Dioxin/Furan TEQ 1998 (Bird)	--	0.000236	0.0000149	0.00125	0.00000519	--	0.00317
Total Dioxin/Furan TEQ 1998 (Fish)	--	0.000236	0.0000149	0.00125	0.00000519	--	0.000556
Total Dioxin/Furan TEQ 1998 (Mammal)	--	0.000728	0.000106	0.0065	0.00000519	--	0.00187
Total Dioxin/Furan TEQ (Bird)	--	0.000236	0.0000149	0.00125	0.00000519	--	0.00317
Total Dioxin/Furan TEQ (Fish)	--	0.000236	0.0000149	0.00125	0.00000519	--	0.000556
Total Dioxin/Furan TEQ (Mammal)	--	0.000843	0.000115	0.00698	0.0000156	--	0.00207
Resin Acids (µg/L)							
Linoleic Acid	20 U	--	20 UJ	--	--	20 U	--
Oleic Acid/Linolenic Acid	20 U	--	20 U	--	--	20 U	--
Pimaric acid	20 U	--	20 U	--	--	20 U	--
Isopimaric acid	20 U	--	20 UJ	--	--	20 U	--
Dehydroabietic acid	20 U	--	20 U	--	--	20 U	--
Abietic acid	20 U	--	20 UJ	--	--	20 U	--
9,10-Dichlorostearic Acid	20 U	--	20 U	--	--	20 U	--
14-Chlorodehydroabietic acid	20 U	--	20 U	--	--	20 U	--
12-Chlorodehydroabietic acid	20 U	--	20 U	--	--	20 U	--
Dichlorodehydroabietic acid	20 U	--	20 U	--	--	20 U	--
Phenols (µg/L)							
2,4,5-Trichlorophenol	0.005 U	--	0.005 U	--	--	0.005 U	--
2,4,6-Trichlorophenol	0.005 U	--	0.005 U	--	--	0.005 U	--
2,3,4,6-Tetrachlorophenol	0.005 U	--	0.005 U	--	--	0.005 U	--
Pentachlorophenol	0.01 U	--	0.01 U	--	--	0.01 U	--
3,4,5-Trichloroguaiacol	0.005 U	--	0.005 U	--	--	0.005 U	--
3,4,6-Trichloroguaiacol	0.005 U	--	0.005 U	--	--	0.005 U	--
4,5,6-Trichloroguaiacol	0.005 U	--	0.005 U	--	--	0.005 U	--

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters LGP-09	2007 Hi-Vol Waters LGP-11	2007 Hi-Vol Waters LGP-11				
Sample Location	LGP2-03-070621	LGP2-03-SW-A FILTER-070301	LGP2-03-SW-A-070301	LGP2-03-SW-A-FILTER-070607	LGP2-03-SW-A-PUF_N/A-070607	LGP2-04-070621	LGP2-04-SW-A FILTER-070228
Sample Identification	6/21/2007	3/1/2007	3/1/2007	6/7/2007	6/7/2007	6/21/2007	2/28/2007
Sample Date	W	W	W	W	W	W	W
Sample Matrix							
Tetrachloroguaiacol	0.01 U	--	0.01 U	--	--	0.01 U	--
3,4,5-Trichlorocatechol	0.01 U	--	0.01 U	--	--	0.01 U	--
3,4,6-Trichlorocatechol	0.01 U	--	0.01 U	--	--	0.01 U	--
Tetrachlorocatechol	0.01 U	--	0.01 U	--	--	0.01 U	--
Trichlorosyringol	0.005 U	--	0.005 U	--	--	0.005 U	--
Chlorophenols toxic unit sum							
Retene (µg/L)							
Retene	1 U	--	0.05 U	--	--	1 U	--
beta-Sitosterol (µg/L)							
beta-Sitosterol	0.35 J	--	0.42 J	--	--	0.21 J	--
VOCs (µg/L)							
Chloroform	0.5 U	--	0.5 U	--	--	0.5 U	--

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters LGP-11	2007 Hi-Vol Waters LGP-11	2007 Hi-Vol Waters LGP-11	2007 Hi-Vol Waters LGP-13	2007 Hi-Vol Waters LGP-13	2007 Hi-Vol Waters LGP-13	2007 Hi-Vol Waters LGP-13
Sample Location	LGP2-04-SW-A-070302	LGP2-04-SW-A-FILTER-070607	LGP2-04-SW-A-PUF_N/A-070607	LGP2-05-070621	LGP2-05-SW-A FILTER-070228	LGP2-05-SW-A-070302	LGP2-05-SW-A-FILTER-070607
Sample Identification	2/28/2007	6/7/2007	6/7/2007	6/21/2007	2/28/2007	2/28/2007	6/7/2007
Sample Date	W	W	W	W	W	W	W
Sample Matrix							
Conventional (mg/L)							
Dissolved organic carbon	2.1	--	--	2.1	--	2.6	--
Total organic carbon	2.7	--	--	2.3	--	3.0	--
Total suspended solids	5	--	--	5 U	--	5 U	--
Dioxin/Furans (pg/L)							
2,3,7,8-TCDD	0.00224 U	0.00581 U	0.00184 U	--	0.00167 U	0.0016 U	0.00301 U
1,2,3,7,8-PeCDD	0.00644 U	0.00743 U	0.00406 U	--	0.00246 U	0.00926 U	0.00579 U
1,2,3,4,7,8-HxCDD	0.00411 U	0.0125 U	0.00622 U	--	0.00398 U	0.00261 U	0.00388 U
1,2,3,6,7,8-HxCDD	0.00429 U	0.0293 J	0.00633 U	--	0.00396 U	0.00257 U	0.0125 U
1,2,3,7,8,9-HxCDD	0.00417 U	0.0179 J	0.00687 U	--	0.00394 U	0.00263 U	0.0042 U
1,2,3,4,6,7,8-HpCDD	0.015 J	0.798	0.00731 U	--	0.0788	0.0106 J	0.133
OCDD	0.0741 J	5.47	0.0503 J	--	0.729	0.0643 J	0.993
2,3,7,8-TCDF	0.00256 J	0.00731 J	0.00184 U	--	0.00174 U	0.00117 U	0.00276 U
1,2,3,7,8-PeCDF	0.00274 U	0.0125 U	0.00323 U	--	0.00555 U	0.00172 U	0.00228 U
2,3,4,7,8-PeCDF	0.00625 U	0.0125 U	0.00298 U	--	0.00493 U	0.00159 U	0.00198 U
1,2,3,4,7,8-HxCDF	0.00625 U	0.0125 U	0.00259 U	--	0.00122 U	0.000542 U	0.0125 U
1,2,3,6,7,8-HxCDF	0.00625 U	0.0125 U	0.00245 U	--	0.00114 U	0.000505 U	0.0125 U
2,3,4,6,7,8-HxCDF	0.00625 U	0.0125 U	0.00288 U	--	0.00131 U	0.00625 U	0.00188 U
1,2,3,7,8,9-HxCDF	0.00188 U	0.00155 U	0.0036 U	--	0.00151 U	0.000671 U	0.00243 U
1,2,3,4,6,7,8-HpCDF	0.00779 J	0.102 J	0.00304 U	--	0.011 J	0.00625 U	0.0276 J
1,2,3,4,7,8,9-HpCDF	0.00198 U	0.00564 U	0.00456 U	--	0.00225 U	0.00383 U	0.00297 U
OCDF	0.0162 J	0.181 J	0.0204 U	--	0.0195 J	0.00849 U	0.068 J
Total Dioxin/Furan	0.116	6.61	0.0503	--	0.838	0.0749	1.22
Total Dioxin/Furan TEQ 1998 (Bird)	0.00266	0.0118	0.00000503	--	0.000264	0.000017	0.000515
Total Dioxin/Furan TEQ 1998 (Fish)	0.00023	0.00322	0.00000503	--	0.000264	0.000017	0.000515
Total Dioxin/Furan TEQ 1998 (Mammal)	0.000493	0.015	0.00000503	--	0.000973	0.000112	0.00171
Total Dioxin/Furan TEQ (Bird)	0.00266	0.0118	0.00000503	--	0.000264	0.000017	0.000515
Total Dioxin/Furan TEQ (Fish)	0.00023	0.00322	0.00000503	--	0.000264	0.000017	0.000515
Total Dioxin/Furan TEQ (Mammal)	0.000511	0.0161	0.0000151	--	0.00112	0.000125	0.00192
Resin Acids (µg/L)							
Linoleic Acid	20 UJ	--	--	20 U	--	20 UJ	--
Oleic Acid/Linolenic Acid	20 U	--	--	20 U	--	20 U	--
Pimaric acid	20 U	--	--	20 U	--	20 U	--
Isopimaric acid	20 UJ	--	--	20 U	--	20 UJ	--
Dehydroabietic acid	20 U	--	--	20 U	--	20 U	--
Abietic acid	20 UJ	--	--	20 U	--	20 UJ	--
9,10-Dichlorostearic Acid	20 U	--	--	20 U	--	20 U	--
14-Chlorodehydroabietic acid	20 U	--	--	20 U	--	20 U	--
12-Chlorodehydroabietic acid	20 U	--	--	20 U	--	20 U	--
Dichlorodehydroabietic acid	20 U	--	--	20 U	--	20 U	--
Phenols (µg/L)							
2,4,5-Trichlorophenol	0.005 U	--	--	0.005 U	--	0.005 U	--
2,4,6-Trichlorophenol	0.005 U	--	--	0.005 U	--	0.005 U	--
2,3,4,6-Tetrachlorophenol	0.005 U	--	--	0.005 U	--	0.005 U	--
Pentachlorophenol	0.01 U	--	--	0.01 U	--	0.01 U	--
3,4,5-Trichloroguaiacol	0.005 U	--	--	0.005 U	--	0.005 U	--
3,4,6-Trichloroguaiacol	0.005 U	--	--	0.005 U	--	0.005 U	--
4,5,6-Trichloroguaiacol	0.005 U	--	--	0.005 U	--	0.005 U	--

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters LGP-11	2007 Hi-Vol Waters LGP-11	2007 Hi-Vol Waters LGP-11	2007 Hi-Vol Waters LGP-13	2007 Hi-Vol Waters LGP-13	2007 Hi-Vol Waters LGP-13	2007 Hi-Vol Waters LGP-13
Sample Location	LGP2-04-SW-A-070302	LGP2-04-SW-A-FILTER-070607	LGP2-04-SW-A-PUF_N/A-070607	LGP2-05-070621	LGP2-05-SW-A FILTER-070228	LGP2-05-SW-A-070302	LGP2-05-SW-A-FILTER-070607
Sample Identification	2/28/2007	6/7/2007	6/7/2007	6/21/2007	2/28/2007	2/28/2007	6/7/2007
Sample Date	W	W	W	W	W	W	W
Sample Matrix							
Tetrachloroguaiacol	0.01 U	--	--	0.01 U	--	0.01 U	--
3,4,5-Trichlorocatechol	0.01 U	--	--	0.01 U	--	0.01 U	--
3,4,6-Trichlorocatechol	0.01 U	--	--	0.01 U	--	0.01 U	--
Tetrachlorocatechol	0.01 U	--	--	0.01 U	--	0.01 U	--
Trichlorosyringol	0.005 U	--	--	0.005 U	--	0.005 U	--
Chlorophenols toxic unit sum							
Retene (µg/L)							
Retene	0.053 U	--	--	1 U	--	0.05 U	--
beta-Sitosterol (µg/L)							
beta-Sitosterol	0.40 J	--	--	0.19 J	--	0.32 J	--
VOCs (µg/L)							
Chloroform	0.5 U	--	--	0.5 U	--	0.5 U	--

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters LGP-13	2007 Hi-Vol Waters LGP-EFF					
Sample Location	LGP2-05-SW-A-PUF_N/A-070607	LGP2-EFF-070621	LGP2-EFF-AQ-A FILTER-070302	LGP2-EFF-AQ-A-070302	LGP2-EFF-AQ-A-FILTER-070606	LGP2-EFF-AQ-A-PUF_N/A-070606	LGP2-EFF-AQ-D-070302
Sample Identification							
Sample Date	6/7/2007	6/21/2007	3/2/2007	3/2/2007	6/6/2007	6/6/2007	3/2/2007
Sample Matrix	W	W	W	W	W	W	WG
Conventional (mg/L)							
Dissolved organic carbon	--	97.6	--	111	--	--	108
Total organic carbon	--	112	--	143	--	--	142
Total suspended solids	--	43	--	60	--	--	58
Dioxin/Furans (pg/L)							
2,3,7,8-TCDD	0.00386 U	--	0.00498 J	0.0037 U	0.0148 J	0.00217 U	--
1,2,3,7,8-PeCDD	0.00304 U	--	0.00625 U	0.00294 U	0.0125 U	0.00334 U	--
1,2,3,4,7,8-HxCDD	0.00823 U	--	0.00689 J	0.0039 U	0.0125 U	0.00569 U	--
1,2,3,6,7,8-HxCDD	0.00829 U	--	0.00625 U	0.00625 U	0.0125 U	0.00569 U	--
1,2,3,7,8,9-HxCDD	0.00922 U	--	0.007 J	0.00625 U	0.0125 U	0.00635 U	--
1,2,3,4,6,7,8-HpCDD	0.00625 U	--	0.0833	0.0153 J	0.107 J	0.0161 J	--
OCDD	0.0452 J	--	0.494	0.0461 J	0.743	0.0303 J	--
2,3,7,8-TCDF	0.00187 U	--	0.0448	0.0161	0.108	0.0102 J	--
1,2,3,7,8-PeCDF	0.00736 U	--	0.00848 J	0.00625 U	0.0125 U	0.00455 U	--
2,3,4,7,8-PeCDF	0.0067 U	--	0.0161 J	0.00625 U	0.013 J	0.00422 U	--
1,2,3,4,7,8-HxCDF	0.00146 U	--	0.00895 J	0.00129 U	0.0125 U	0.00188 U	--
1,2,3,6,7,8-HxCDF	0.00141 U	--	0.00625 U	0.00127 U	0.00131 U	0.00188 U	--
2,3,4,6,7,8-HxCDF	0.00154 U	--	0.00973 J	0.00138 U	0.00144 U	0.00198 U	--
1,2,3,7,8,9-HxCDF	0.0021 U	--	0.00625 U	0.00158 U	0.00168 U	0.00271 U	--
1,2,3,4,6,7,8-HpCDF	0.00275 U	--	0.0186 J	0.00625 U	0.0147 J	0.00281 U	--
1,2,3,4,7,8,9-HpCDF	0.00421 U	--	0.00209 U	0.00242 U	0.00249 U	0.00423 U	--
OCDF	0.0248 U	--	0.017 J	0.0101 U	0.0309 J	0.0197 U	--
Total Dioxin/Furan	0.0452	--	0.72	0.0775	1.03	0.0566	--
Total Dioxin/Furan TEQ 1998 (Bird)	0.00000452	--	0.07	0.0161	0.136	0.0102	--
Total Dioxin/Furan TEQ 1998 (Fish)	0.00000452	--	0.0214	0.000825	0.027	0.000529	--
Total Dioxin/Furan TEQ 1998 (Mammal)	0.00000452	--	0.0223	0.00177	0.0334	0.00118	--
Total Dioxin/Furan TEQ (Bird)	0.00000452	--	0.07	0.0161	0.136	0.0102	--
Total Dioxin/Furan TEQ (Fish)	0.00000452	--	0.0214	0.000825	0.027	0.000529	--
Total Dioxin/Furan TEQ (Mammal)	0.0000136	--	0.019	0.00178	0.0309	0.00119	--
Resin Acids (µg/L)							
Linoleic Acid	--	54 J	--	59 J	--	--	17 J
Oleic Acid/Linolenic Acid	--	74 J	--	23	--	--	25
Pimaric acid	--	4.2 J	--	20 U	--	--	20 U
Isopimaric acid	--	13 J	--	20 UJ	--	--	20 UJ
Dehydroabietic acid	--	9.3 J	--	13 J	--	--	20 U
Abietic acid	--	11 J	--	20 U	--	--	20 UJ
9,10-Dichlorostearic Acid	--	20 U	--	20 U	--	--	20 U
14-Chlorodehydroabietic acid	--	20 U	--	20 U	--	--	20 U
12-Chlorodehydroabietic acid	--	20 U	--	20 U	--	--	20 U
Dichlorodehydroabietic acid	--	20 U	--	20 U	--	--	20 U
Phenols (µg/L)							
2,4,5-Trichlorophenol	--	0.005 U	--	0.005 U	--	--	0.005 U
2,4,6-Trichlorophenol	--	0.21	--	0.15	--	--	0.13
2,3,4,6-Tetrachlorophenol	--	0.005 U	--	0.005 U	--	--	0.005 U
Pentachlorophenol	--	0.01 U	--	0.01 U	--	--	0.01 U
3,4,5-Trichloroguaiacol	--	0.031	--	0.02 J	--	--	0.019
3,4,6-Trichloroguaiacol	--	0.005 U	--	0.016	--	--	0.017
4,5,6-Trichloroguaiacol	--	0.052	--	0.093	--	--	0.091

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters LGP-13	2007 Hi-Vol Waters LGP-EFF					
Sample Location	LGP2-05-SW-A-PUF_N/A-070607	LGP2-EFF-070621	LGP2-EFF-AQ-A FILTER-070302	LGP2-EFF-AQ-A-070302	LGP2-EFF-AQ-A-FILTER-070606	LGP2-EFF-AQ-A-PUF_N/A-070606	LGP2-EFF-AQ-D-070302
Sample Identification							
Sample Date	6/7/2007	6/21/2007	3/2/2007	3/2/2007	6/6/2007	6/6/2007	3/2/2007
Sample Matrix	W	W	W	W	W	W	WG
Tetrachloroguaiacol	--	0.012	--	0.011	--	--	0.012
3,4,5-Trichlorocatechol	--	0.01 U	--	0.01 U	--	--	0.034
3,4,6-Trichlorocatechol	--	0.01 U	--	0.01 U	--	--	0.01 U
Tetrachlorocatechol	--	0.01 U	--	0.01 U	--	--	0.01 U
Trichlorosyringol	--	0.005 U	--	0.005 U	--	--	0.005 U
Chlorophenols toxic unit sum		0.305		0.29			0.303
Retene (µg/L)							
Retene	--	1 U	--	0.052 U	--	--	0.054 U
beta-Sitosterol (µg/L)							
beta-Sitosterol	--	11 J	--	7.8 J	--	--	4.5 J
VOCs (µg/L)							
Chloroform	--	1.3	--	1.0	--	--	1.0

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters SR-REF				
Sample Location	LGP2-SR-REF-070621	SR-REF-SW-A FILTER-070227	SR-REF-SW-A-070227	SR-REF-SW-A-FILTER-070606	SR-REF-SW-A-PUF_N/A-070606
Sample Identification					
Sample Date	6/21/2007	2/27/2007	2/27/2007	6/6/2007	6/6/2007
Sample Matrix	W	W	W	W	W
Conventional (mg/L)					
Dissolved organic carbon	2.1	--	2.4	--	--
Total organic carbon	2.2	--	2.3	--	--
Total suspended solids	5 U	--	5 UJ	--	--
Dioxin/Furans (pg/L)					
2,3,7,8-TCDD	--	0.00121 U	0.00163 U	0.00404 U	0.00363 U
1,2,3,7,8-PeCDD	--	0.0018 U	0.00936 U	0.00383 U	0.00277 U
1,2,3,4,7,8-HxCDD	--	0.00436 U	0.00272 U	0.0125 U	0.00456 U
1,2,3,6,7,8-HxCDD	--	0.00405 U	0.00272 U	0.0125 U	0.00481 U
1,2,3,7,8,9-HxCDD	--	0.00427 U	0.00278 U	0.0125 U	0.00551 U
1,2,3,4,6,7,8-HpCDD	--	0.0597 J	0.0129 J	0.129	0.0055 U
OCDD	--	0.428	0.0632 J	1.04	0.0381 J
2,3,7,8-TCDF	--	0.00359 U	0.00133 U	0.0025 U	0.00167 U
1,2,3,7,8-PeCDF	--	0.00607 U	0.00251 U	0.0019 U	0.00244 U
2,3,4,7,8-PeCDF	--	0.00562 U	0.00235 U	0.00173 U	0.00209 U
1,2,3,4,7,8-HxCDF	--	0.000643 U	0.0014 U	0.00163 U	0.00161 U
1,2,3,6,7,8-HxCDF	--	0.000621 U	0.00133 U	0.00155 U	0.0016 U
2,3,4,6,7,8-HxCDF	--	0.000702 U	0.00143 U	0.00162 U	0.00173 U
1,2,3,7,8,9-HxCDF	--	0.00086 U	0.00162 U	0.00195 U	0.00223 U
1,2,3,4,6,7,8-HpCDF	--	0.00812 J	0.00625 U	0.0263 J	0.00242 U
1,2,3,4,7,8,9-HpCDF	--	0.00189 U	0.00236 U	0.00344 U	0.00355 U
OCDF	--	0.0231 J	0.0125 U	0.0696 J	0.0201 U
Total Dioxin/Furan	--	0.519	0.0761	1.26	0.0381
Total Dioxin/Furan TEQ 1998 (Bird)	--	0.000186	0.0000192	0.000503	0.00000381
Total Dioxin/Furan TEQ 1998 (Fish)	--	0.000186	0.0000192	0.000503	0.00000381
Total Dioxin/Furan TEQ 1998 (Mammal)	--	0.000723	0.000135	0.00166	0.00000381
Total Dioxin/Furan TEQ (Bird)	--	0.000186	0.0000192	0.000503	0.00000381
Total Dioxin/Furan TEQ (Fish)	--	0.000186	0.0000192	0.000503	0.00000381
Total Dioxin/Furan TEQ (Mammal)	--	0.000814	0.000148	0.00189	0.0000114
Resin Acids (µg/L)					
Linoleic Acid	13 J	--	20 UJ	--	--
Oleic Acid/Linolenic Acid	20 U	--	20 U	--	--
Pimaric acid	20 U	--	20 U	--	--
Isopimaric acid	20 U	--	20 UJ	--	--
Dehydroabietic acid	20 U	--	20 U	--	--
Abietic acid	20 U	--	20 UJ	--	--
9,10-Dichlorostearic Acid	20 U	--	20 U	--	--
14-Chlorodehydroabietic acid	20 U	--	20 U	--	--
12-Chlorodehydroabietic acid	20 U	--	20 U	--	--
Dichlorodehydroabietic acid	20 U	--	20 U	--	--
Phenols (µg/L)					
2,4,5-Trichlorophenol	0.005 U	--	0.005 U	--	--
2,4,6-Trichlorophenol	0.005 U	--	0.005 U	--	--
2,3,4,6-Tetrachlorophenol	0.005 U	--	0.005 U	--	--
Pentachlorophenol	0.01 U	--	0.01 U	--	--
3,4,5-Trichloroguaiacol	0.005 U	--	0.005 U	--	--
3,4,6-Trichloroguaiacol	0.005 U	--	0.005 U	--	--
4,5,6-Trichloroguaiacol	0.005 U	--	0.005 U	--	--

Table 3
Summary of Chemical and Conventional Analyses

Sampling Category	2007 Hi-Vol Waters	2007 Hi-Vol Waters	2007 Hi-Vol Waters	2007 Hi-Vol Waters	2007 Hi-Vol Waters
Sample Location	SR-REF	SR-REF	SR-REF	SR-REF	SR-REF
Sample Identification	LGP2-SR-REF-070621	SR-REF-SW-A FILTER-070227	SR-REF-SW-A-070227	SR-REF-SW-A-FILTER-070606	SR-REF-SW-A-PUF_N/A-070606
Sample Date	6/21/2007	2/27/2007	2/27/2007	6/6/2007	6/6/2007
Sample Matrix	W	W	W	W	W
Tetrachloroguaiacol	0.01 U	--	0.01 U	--	--
3,4,5-Trichlorocatechol	0.01 U	--	0.01 U	--	--
3,4,6-Trichlorocatechol	0.01 U	--	0.01 U	--	--
Tetrachlorocatechol	0.01 U	--	0.01 U	--	--
Trichlorosyringol	0.005 U	--	0.005 U	--	--
Chlorophenols toxic unit sum					
Retene (µg/L)					
Retene	1 U	--	0.05 UJ	--	--
beta-Sitosterol (µg/L)					
beta-Sitosterol	0.33 J	--	0.86 J	--	--
VOCs (µg/L)					
Chloroform	0.5 U	--	0.5 U	--	--

Notes:

Denotes result above toxicity benchmark

Bold = Detected

U = The compound was analyzed for, but was not detected ("Non-detect") at or above the method reporting limit/method detection limit.

J = The result is an estimated concentration that is less than the method reporting limit but greater than or equal to the method detection limit.

CR- REF = Clearwater Reference station

SR-REF = Snake River Reference station

LGP = Lower Granite Pool

Dioxin/Furan TEQ is per section J, of permit ID0001163.

Table 4
Statistical Summary of High Volume Water Sample Results by Analyte

Chemical	Detection Frequency	Percent Qualified as Estimated	Result Average	Max Detect Result	Min Detect Result	Max MDL Limit	Min MDL Limit	Detected Standard Deviation
beta-Sitosterol (µg/L)								
beta-Sitosterol	84%	100%	1.37	11.0	0.190	0.120	0.110	3.13
Conventionals (mg/L)								
Dissolved organic carbon	100%	5%	12.9	111	0.300	2.00	0.0400	32.3
Total organic carbon	100%	5%	15.5	143	0.120	2.00	0.0400	39.8
Total suspended solids	21%	11%	10.0	60.0	5.00	5.00	5.00	27.2
Dissolved organic carbon	100%	0%	108	108	108	1.00	1.00	
Total organic carbon	100%	0%	142	142	142	2.00	2.00	
Total suspended solids	100%	0%	58.0	58.0	58.0	5.00	5.00	
Dioxin/Furans (pg/L)								
1,2,3,4,6,7,8-HxCDD	78%	36%	0.104	0.798	0.00853			0.171
1,2,3,4,6,7,8-HxCDF	56%	53%	0.0210	0.182	0.00779			0.0409
1,2,3,4,7,8,9-HxCDF	3%	3%	0.00672	0.0668	0.0668			
1,2,3,4,7,8-HxCDD	6%	6%	0.00639	0.0148	0.00689			0.00559
1,2,3,4,7,8-HxCDF	6%	6%	0.00548	0.0374	0.00895			0.0201
1,2,3,6,7,8-HxCDD	11%	11%	0.00872	0.0377	0.0132			0.0112
1,2,3,6,7,8-HxCDF	3%	3%	0.00539	0.0497	0.0497			
1,2,3,7,8,9-HxCDD	8%	8%	0.00773	0.0287	0.00700			0.0109
1,2,3,7,8,9-HxCDF	6%	6%	0.00303	0.0249	0.00723			0.0125
1,2,3,7,8-PeCDD	3%	3%	0.00609	0.00699	0.00699			
1,2,3,7,8-PeCDF	6%	6%	0.00521	0.0113	0.00848			0.00199
2,3,4,6,7,8-HxCDF	6%	3%	0.00568	0.0725	0.00973			0.0444
2,3,4,7,8-PeCDF	8%	8%	0.00556	0.0232	0.0130			0.00523
2,3,7,8-TCDD	6%	6%	0.00300	0.0148	0.00498			0.00694
2,3,7,8-TCDF	39%	33%	0.00747	0.108	0.00172			0.0289
OCDD	100%	50%	0.679	5.47	0.0223			1.03
OCDF	53%	53%	0.0744	0.330	0.0162			0.0812
Phenols (ng/L)								
2,3,4,6-Tetrachlorophenol	0%	0%	5.00			0.830	0.830	
2,4,5-Trichlorophenol	0%	0%	5.00			0.370	0.370	
2,4,6-Trichlorophenol	11%	0%	23.4	210	150	0.550	0.550	34.6
3,4,5-Trichlorocatechol	0%	0%	10.0			2.80	2.80	
3,4,5-Trichloroguaiacol	11%	5%	7.16	31.0	20.0	0.850	0.850	6.35
3,4,6-Trichlorocatechol	0%	0%	10.0			2.60	2.60	
3,4,6-Trichloroguaiacol	5%	0%	5.58	16.0	16.0	0.290	0.290	0
4,5,6-Trichloroguaiacol	11%	0%	12.1	93.0	52.0	0.630	0.630	23.7
Pentachlorophenol	0%	0%	10.0			1.30	1.30	
Tetrachlorocatechol	0%	0%	10.0			1.00	1.00	
Tetrachloroguaiacol	11%	0%	10.2	12.0	11.0	1.40	1.40	0.577
Trichlorosyringol	0%	0%	5.00			0.780	0.780	
2,3,4,6-Tetrachlorophenol	0%	0%	5.00			0.830	0.830	
2,4,5-Trichlorophenol	0%	0%	5.00			0.370	0.370	

Table 4
Statistical Summary of High Volume Water Sample Results by Analyte

Chemical	Detection Frequency	Percent Qualified as Estimated	Result Average	Max Detect Result	Min Detect Result	Max MDL Limit	Min MDL Limit	Detected Standard Deviation
2,4,6-Trichlorophenol	100%	0%	130	130	130	0.550	0.550	0
3,4,5-Trichlorocatechol	100%	0%	34.0	34.0	34.0	2.80	2.80	0
3,4,5-Trichloroguaiacol	100%	0%	19.0	19.0	19.0	0.850	0.850	0
3,4,6-Trichlorocatechol	0%	0%	10.0			2.60	2.60	
3,4,6-Trichloroguaiacol	100%	0%	17.0	17.0	17.0	0.290	0.290	0
4,5,6-Trichloroguaiacol	100%	0%	91.0	91.0	91.0	0.630	0.630	0
Pentachlorophenol	0%	0%	10.0			1.30	1.30	
Tetrachlorocatechol	0%	0%	10.0			1.00	1.00	
Tetrachloroguaiacol	100%	0%	12.0	12.0	12.0	1.40	1.40	0
Trichlorosyringol	0%	0%	5.00			0.780	0.780	
Resin Acid (µg/L)								
12-Chlorodehydroabietic acid	0%	5%	20.0			2.30	2.30	
14-Chlorodehydroabietic acid	0%	5%	20.0			2.40	2.40	
3,4,5-Trichloroguaiacol	11%	5%	7.16	31.0	20.0	0.850	0.850	7.78
9,10-Dichlorostearic Acid	0%	5%	20.0			4.20	4.20	
Abietic acid	5%	47%	19.5	11.0	11.0	4.50	4.50	0
Dehydroabietic acid	11%	16%	19.1	13.0	9.30	6.20	6.20	2.14
Dichlorodehydroabietic acid	0%	5%	20.0			7.60	7.60	
Isopimaric acid	5%	53%	19.6	13.0	13.0	5.40	5.40	0
Linoleic Acid	26%	68%	21.8	59.0	4.00	3.90	3.90	25.8
Oleic Acid/Linolenic Acid	11%	11%	23.0	74.0	23.0	6.90	6.90	29.4
Pimaric acid	5%	11%	19.2	4.20	4.20	4.10	4.10	0
Tetrachloroguaiacol	11%	0%	10.2	12.0	11.0	1.40	1.40	0.707
12-Chlorodehydroabietic acid	0%	0%	20.0			2.30	2.30	
14-Chlorodehydroabietic acid	0%	0%	20.0			2.40	2.40	
3,4,5-Trichloroguaiacol	100%	0%	19.0	19.0	19.0	0.850	0.850	
9,10-Dichlorostearic Acid	0%	0%	20.0			4.20	4.20	
Abietic acid	0%	100%	20.0			4.50	4.50	
Dehydroabietic acid	0%	0%	20.0			6.20	6.20	
Dichlorodehydroabietic acid	0%	0%	20.0			7.60	7.60	
Isopimaric acid	0%	100%	20.0			5.40	5.40	
Linoleic Acid	100%	100%	17.0	17.0	17.0	3.90	3.90	0
Oleic Acid/Linolenic Acid	100%	0%	25.0	25.0	25.0	6.90	6.90	0
Pimaric acid	0%	0%	20.0			4.10	4.10	
Tetrachloroguaiacol	100%	0%	12.0	12.0	12.0	1.40	1.40	
Retene (µg/L)								
Retene	0%	11%	0.551			1.00	0.00250	
Volatile Organics (µg/L)								
Chloroform	16%	0%	0.674	2.50	1.00	0.140	0.140	0.794

FIGURES

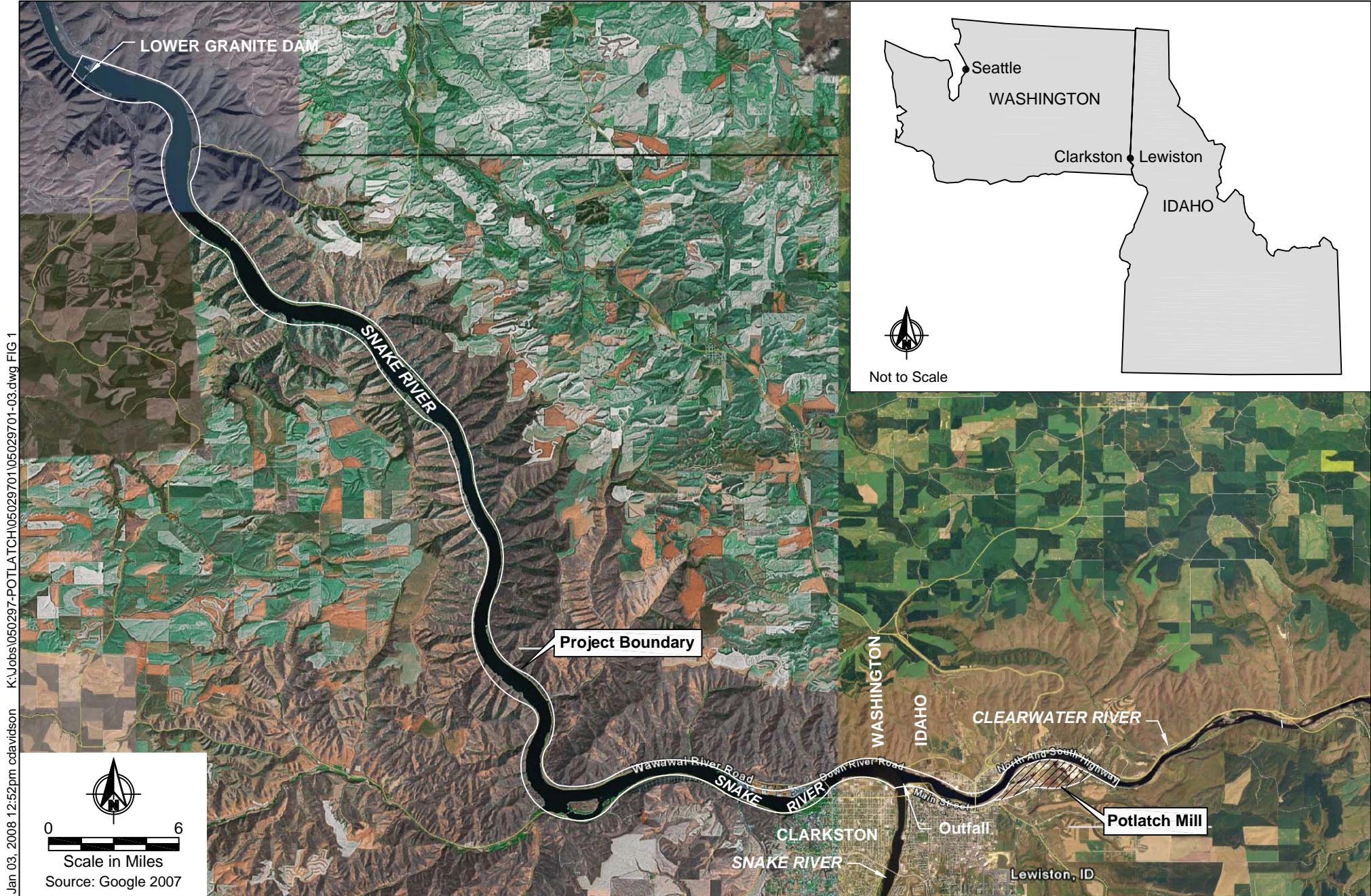
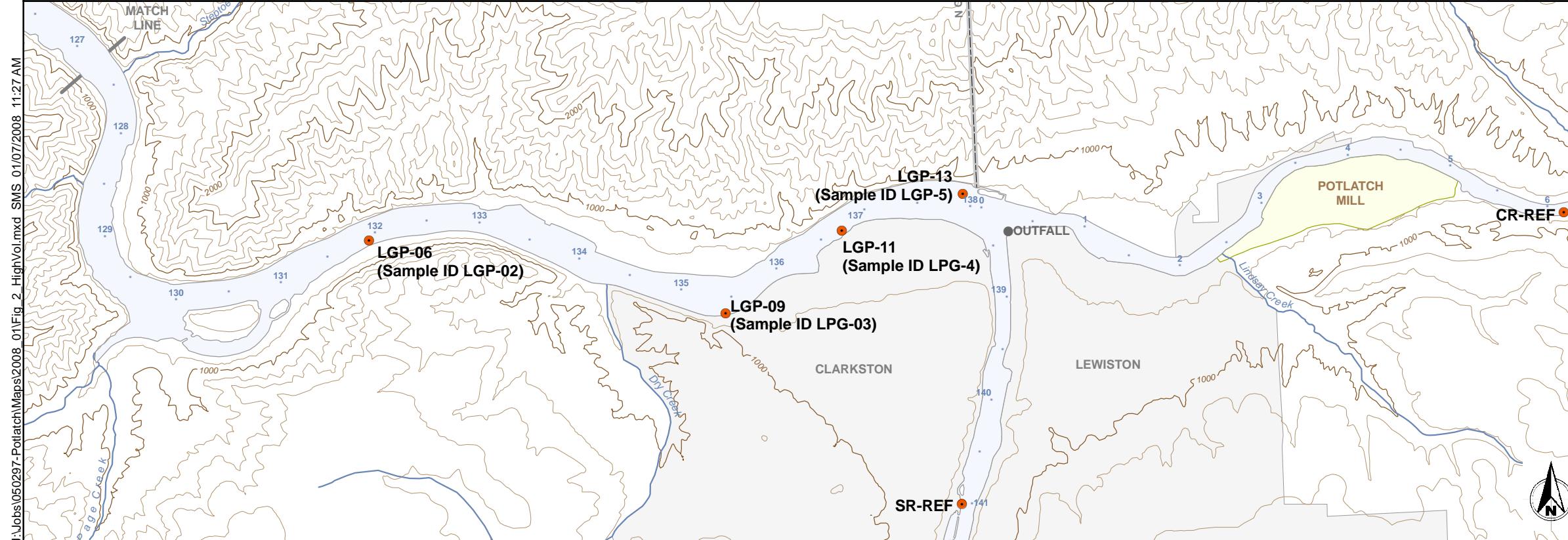
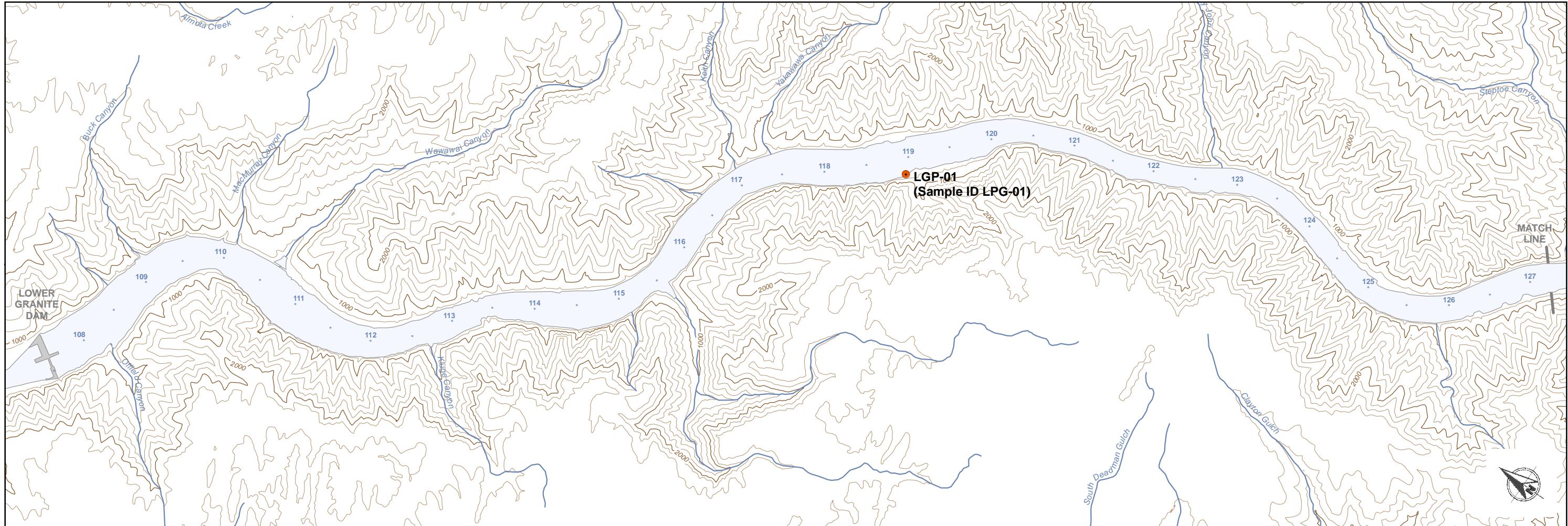


Figure 1
Vicinity Map
Potlatch Pulp and Paper Mill



LEGEND

- Sampling Location
- Approx. River Mile
- 1000-ft Topographic Contour
- 200-ft Topographic Contour
- Stream
- River

North American Datum 1983, Washington State Plane, South Zone, U.S. feet

0 0.5 1 2
Scale in Miles

APPENDIX A

CHAIN-OF-CUSTODY FORMS AND LABORATORY DATA REPORTS

APPENDIX B

DATA VALIDATION REPORTS